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Army Code No
13633 (Rev 1970)

26/Mans/4007

# USER HANDBOOK
for
MACHINE GUNS 7·62 mm
L7A2 & L7A1 (GPMG)
and
MOUNTING, TRIPOD, 7·62 mm, MG L4A1

This publication supersedes W O Code No 13633

LAND SERVICE 1970

ASSISTANT CHIEF OF THE GENERAL STAFF
(OPERATIONAL REQUIREMENTS)

Prepared and printed by
QUALITY ASSURANCE DIRECTORATE (WEAPONS)
WOOLWICH

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ANNEX 'B'

Fig 1 Belt Feed Box

ANNEX 'C'

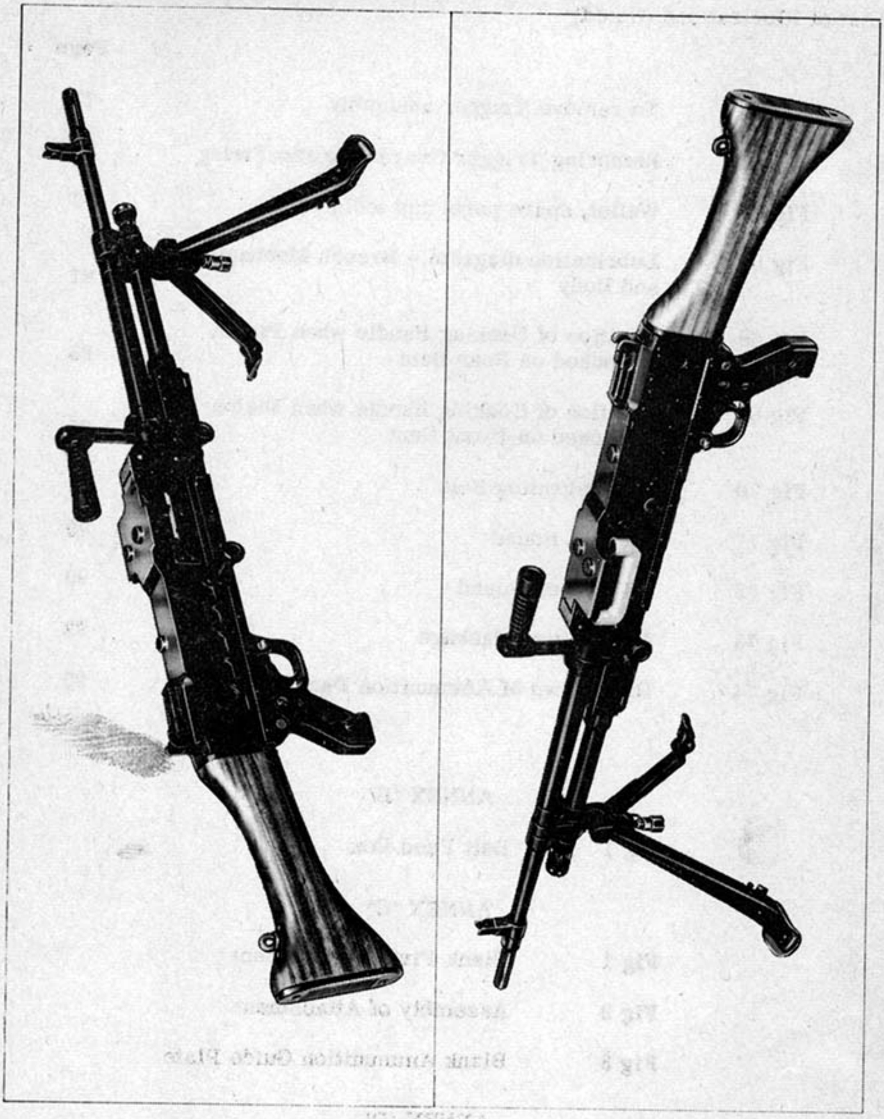
Fig 1 Blank Firing Attachment

Fig 2 Assembly of Attachment

Fig 3 Blank Ammunition Guide Plate

ANNEX 'D'

Fig 1 Muzzle Cover



Frontispiece

CHAPTER 1

DESCRIPTION

SECTION 1 - INTRODUCTION

1. General.

The gun is designed to serve either as a Light Machine Gun (LMG) or as a Sustained Fire Machine Gun (SFMG). In the LMG role it is fired from the bipod and in the SFMG role it is fired from the tripod mounting. Gun and team can be transported in an Armoured Personnel Carrier (APC) from which the gun can be fired using a special mounting provided on the APC. Details of the vehicle mounting are contained in the User Handbook for the FV 432.

2. It is a fully automatic, belt fed, gas and spring operated, air cooled weapon capable of a sustained high rate of fire in bursts. The gun is fed from left to right using factory filled disintegrating link belts. The links are ejected to the right and empty cartridge cases are ejected downward. Links can easily be joined or parted to give the required length of belt and empty links can be refilled by hand for use in an emergency or, when required for training purposes.

3. The cyclic rate of fire is controlled by a gas regulator and is achieved by increasing or decreasing the speed of gas escape; maximum gas is obtained when the regulator is fully closed and minimum gas is obtained when the regulator is fully open. The gun is designed to fire at a cyclic rate of approximately 750 rounds per minute and this rate is normally achieved with the gas regulator set at 6, 7 or 8. With the regulator set at maximum gas the rate of fire should be not less than 900 rounds per minute.

4. A safety feature of the gun is that the breech is positively locked before the round is fired. The piston, whether moving forward or rearward, automatically opens the ejection opening should it be closed. Risk of detection by the enemy is minimized by the design of the regulator and by the attachment of a flash hider to the muzzle.

5. When the gun is fired from the tripod, targets can be engaged over a fairly wide area in quick succession. Its great accuracy together with the instruments provided enable the gun to be fired effectively through smoke or fog, or during the hours of darkness.

6. Ammunition is factory linked in belts of 200 rounds and packed in hermetically sealed boxes. For ammunition details see Chapter 4.

7. The gun described and illustrated throughout this publication is the L7A2. For details of the differences between the L7A1 and L7A2 see Annex 'A'.

8. A drill General Purpose Machine Gun (GPMG) the L27A1 and an instructional GPMG the L36A1 are provided for training purposes. The L27A1 is a converted L7A1 modified to L7A2 standards. The L36A1 is sectionalized to facilitate instruction.

SECTION 2 - MISCELLANEOUS DATA

9. Gun:

a. Calibre	7.62 mm	(0.30 inch).
b. Length:		
(1) LMG	1231 mm	(48.5 inches).
(2) SFMG	1048 mm	(41.25 inches).
c. Weight:		
(1) LMG role	10.9 Kg	(24 lb approx).
(2) Barrel	2.828 Kg	(6 lb approx).
d. Length of barrel (including 2 inches overhang of carrying handle):		
(1) With flash hider	679 mm	(26.75 inches).
(2) Without flash hider	597 mm	(23.5 inches).
e. Number of grooves (right hand)	4	
f. Pitch of rifling	1 in 305 mm	(1 in 12 inches).
g. Type of sights:		
(1) Foresight	Blade.	
(2) Rearsight	Aperture.	
h. Sight range	200 to 1800 metres.	

j. Sight radius:		
(1) LMG role (normal position)	851 mm	(33.5 inches).
(2) SFMG role (upright position)	787 mm	(31 inches).
k. System of operation	Gas and spring.	
l. Trigger pull	3.6 to 6.3 Kg	(8 to 14 lb).
m. Maximum tactical range:		
(1) LMG role	800 metres.	
(2) SFMG role	1800 metres.	
n. Rates of fire:		
(1) Cyclic:		
(a) Optimum	750 rpm.	
(b) Maximum	At least 900 rpm.	
(2) Operational:		
(a) Normal	LMG role 25 rpm SFMG role 100 rpm.	
(b) Rapid	LMG role 100 rpm SFMG role 200 rpm.	
o. Height of sight line above ground according to setting of bipod legs	254 to 317 mm (10.25 to 12.5 inches).	

10. Mounting, Tripod:

a. Weight	13.62 Kg	(30 lb approx).
b. Free traverse	6,400 mils	(360 degrees).
c. Mechanical traverse (maximum)	200 mils	(11 degrees).
d. Clicker control (angle traversed per click)	2.2 mils	(7 mins).

e. Elevation (maximum)	400 mils	(22 degrees).
f. Mechanical elevation (maximum)	50 mils	(2 degrees 48 mins).
g. Depression (maximum)	200 mils	(11 degrees).
h. Mechanical depression (maximum)	50 mils	(2 degrees 48 mins).
j. Leg Spread (maximum):		
(1) Distance across short legs	1.118 metres (44 inches).	
(2) Distance front to rear	1.118 metres (44 inches).	
k. Height of sight line above ground according to setting of tripod legs	330 to 635 mm (13 to 25 inches).	
l. Overall folded dimensions	813 x 191 x 191 mm (32 x 7.5 x 7.5 inches).	

11. Additional Weights:

a. Conversion kit	32.659 Kg	(72 lb).
b. Sightunit complete in case	2.58 Kg	(5 lb 11 oz).
c. Wallet spare parts and tools (complete)	1.02 Kg	(2.25 lb).
d. Sight bracket	0.286 Kg	(10 oz).
e. Gun Chest:		
(1) Empty	17.237 Kg	(38 lb).
(2) Filled	29.03 Kg	(64 lb).
f. Ammunition (100 rounds linked)	2.948 Kg	(6.5 lb).

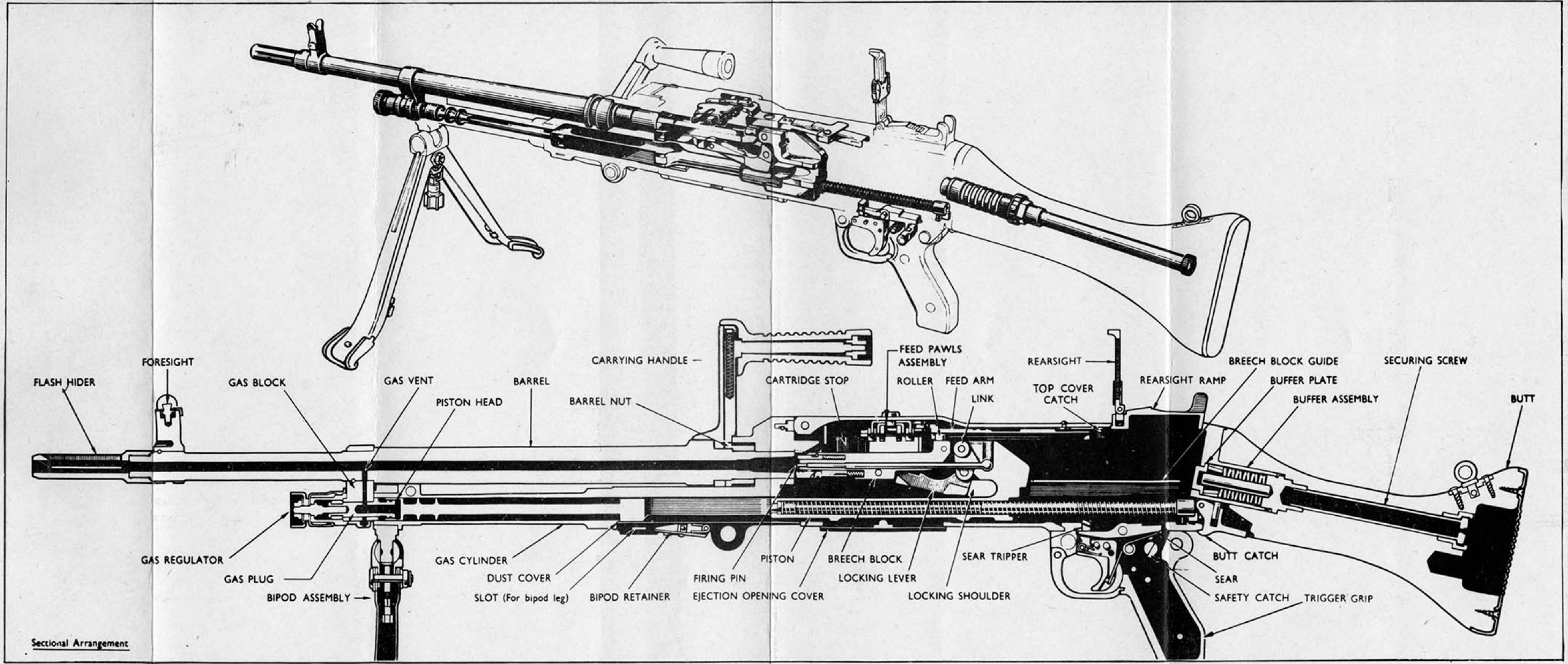

FLASH HIDER
FORESIGHT
GAS BLOCK
GAS VENT
PISTON HEAD
BARREL
BARREL NUT
CARRYING HANDLE
CARTRIDGE STOP
FEED PAWLS ASSEMBLY
ROLLER
FEED ARM
LINK
REARSIGHT
TOP COVER CATCH
REARSIGHT RAMP
BREECH BLOCK GUIDE
BUFFER PLATE
BUFFER ASSEMBLY
SECURING SCREW
BUTT
GAS REGULATOR
GAS PLUG
BIPOD ASSEMBLY
GAS CYLINDER
DUST COVER
SLOT (For bipod leg)
BIPOD RETAINER
PISTON
FIRING PIN
EJECTION OPENING COVER
BREECH BLOCK
LOCKING LEVER
LOCKING SHOULDER
SEAR TRIPPER
BUTT CATCH
SEAR
SAFETY CATCH
TRIGGER GRIP
Sectional Arrangement

Fig 1 The Gun

SECTION 3 - GUN

12. General.

The gun consists of the following main assemblies:

a. Barrel.
b. Body.
c. Breech block and piston.
d. Trigger mechanism.
e. Butt.
f. Bipod.

Barrel Assembly (Figs 2, 3, 4, 5 and 6)

13. Barrel (Fig 2).

The barrel is of steel construction with a chromium plated bore to reduce wear to a minimum. The rifling has four grooves. Externally, the barrel is threaded at the muzzle end to receive the flash hider and immediately in rear of these threads a seating is formed for the foresight block. Approximately midway along the barrel, on its underside, a gas vent is drilled radially into the bore to permit passage of gas into the gas block and regulator. Immediately in rear of the gas vent two projecting lugs are formed which position the front end of the barrel on assembly to the gun and ensure that the gas plug enters the front end of the gas cylinder without causing damage. Externally, the barrel is threaded at the breech end to receive the barrel locking nut by which it is secured to the gun. Forward of this thread an enlarged diameter of the barrel has an annular recess which accommodates the ring of the carrying handle. A flat is formed on the underside of the enlarged diameter to locate and prevent the barrel rotating when assembled to the gun whilst on its upper side a recess is cut to limit the rotation of the carrying handle.

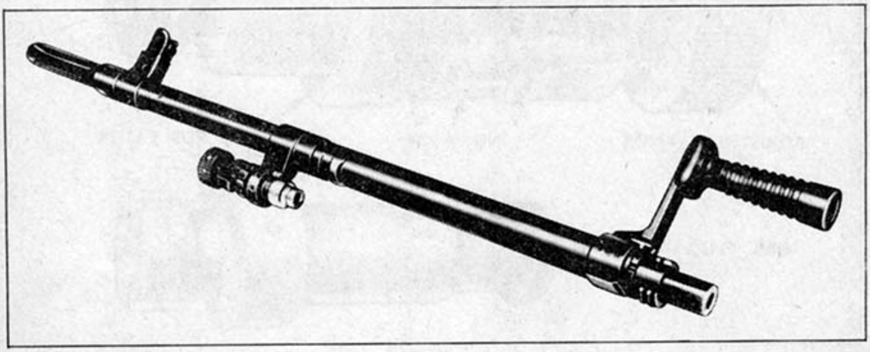


Fig 2 Barrel assembly

14. Gas Block (Fig 3).

The gas block is fitted to the barrel over the gas vent and secured by a lateral pin. It is drilled vertically to coincide with the gas vent in the barrel and bored out longitudinally to receive the gas plug. Three gas escape holes are positioned, one at the bottom and one at each side, whilst a further hole in the bottom coincident with the gas vent, facilitates the use of the cleaning tool. A step is formed on the rear face against which the gas plug is positioned and prevented from rotating.

15. Gas Plug (Fig 3).

Fitted into the gas block from the rear the forward movement of the gas plug is limited by a collar formed on the plug engaging against the rear of the gas block. The plug is prevented from rotating by a flat on the collar engaging the step on the rear face of the gas block. An annular recess towards the front end of the plug houses a split collar which when assembled bears against the front face of the gas block; the gas plug is thus held stationary by its two collars. Internally, the front end of the plug is threaded to receive the actuating screw of the gas regulator. The plug is bored centrally from the rear to permit passage of gas to the piston head and radial holes are drilled to coincide with the gas vent in the barrel and the gas escape holes in the gas block.

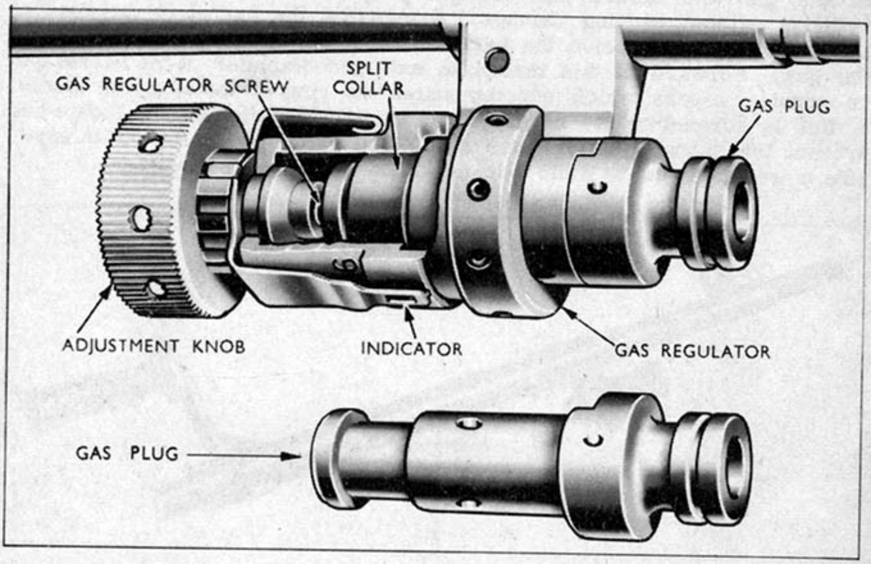


Fig 3 Gas Regulator assembly

16. Gas Regulator (Fig 3).

The regulator assembly consists of gas regulator, actuating screw, adjustment knob and gas setting indicator. The regulator is a sleeve which fits closely over the front of the gas plug and holds the split collar in position. It is cut-away at the rear end to permit passage over part of the gas block. The cut-away allows the regulator to be moved backward or forward but it is prevented from rotating by the edges of the cut-away bearing against the sides of the gas block. The rear of the regulator has its external diameter enlarged to form a collar in which seven gas escape holes are drilled. Internally, the collar has an annular recess which forms a small chamber. When assembled to the gas block the chamber is positioned over the gas escape holes with the forward edge of the chamber partially blocking the holes; thus by moving the regulator backward or forward the area of the gas escape holes can be varied. Movement of the regulator is controlled by the actuating screw which passes through the regulator and screws into the front end of the gas plug. The adjustment knob is attached to the front end of the actuating screw and its knurled outside face is drilled for the insertion of a tool, or the nose of a round, to facilitate turning the assembly. A spring steel indicator is locked to the adjustment knob and turns with it. The indicator has two arms the longer of which engages notches around the exterior of the regulator and indicates the gas setting. The notches are numbered from 0 to 9 and an arrow, together with the word "FASTER", is engraved on the regulator to indicate the direction of turn required to obtain a faster rate of fire.

17. Barrel Locking Nut (Fig 4).

The barrel locking nut is a sleeve with a left hand thread which screws on to the rear end of the barrel. Interrupted threads formed on its

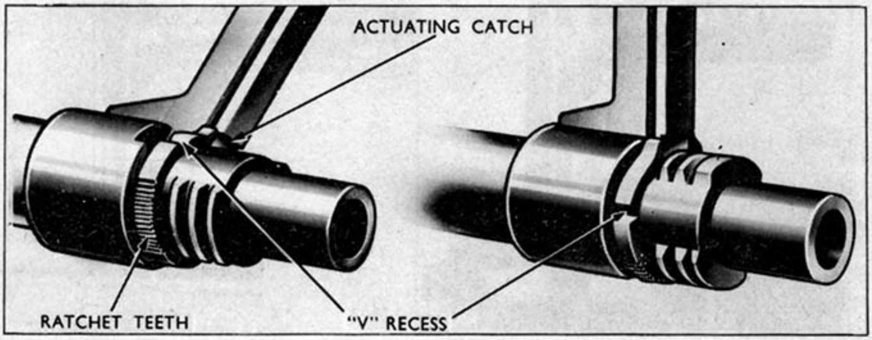


Fig 4 Barrel Locking Nut

exterior engage corresponding threads in the body and lock the barrel to the gun. A flange, forward of the threads, is provided with ratchet teeth for the engagement of the barrel locking catch and a v-shaped recess gives clearance for the catch when the barrel is being assembled to and removed from the gun. A rectangular recess cut in the flange receives the actuating lug of the carrying handle and thus enables the barrel locking nut to be rotated by the carrying handle. Rotation of the barrel nut is limited by a spring pin protruding through the flange and engaging in a recess cut in the top of the carrying handle ring.

18. Carrying Handle (Fig 5).

The carrying handle not only serves as a means of carrying the gun but is also used for removing the barrel or assembling it to the gun. It is mounted on a ring which is housed in an annular recess on the rear of the enlarged diameter of the barrel. The ring is held in this recess by the flange on the front of the barrel locking nut bearing against its rear face. A recess is cut in the top of the ring for engagement with the spring pin on the barrel nut. An actuating lug on the spring loaded stem of the carrying handle engages the barrel locking nut and rotates it to the locked or unlocked position according to the direction of movement of the handle. The lug can be raised out of engagement with the barrel locking nut by pulling the carrying handle outwards. This permits rotation of the handle to the vertical position for carrying purposes, leaving the barrel nut in the locked position.

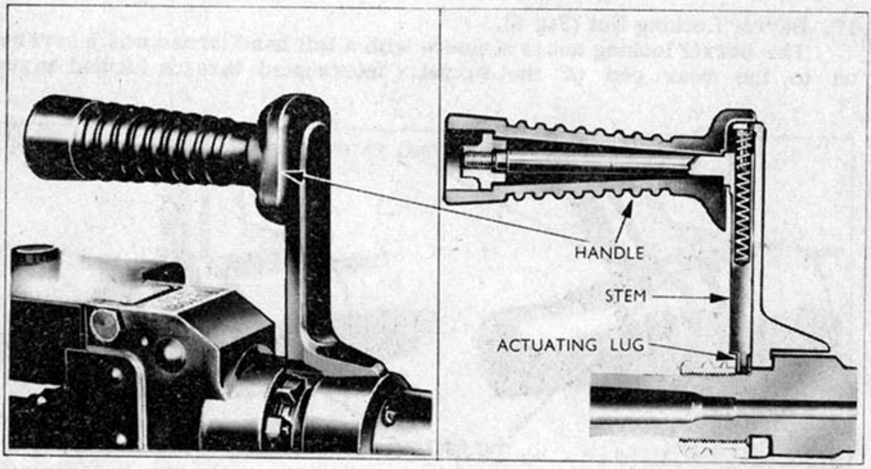


Fig 5 Carrying Handle

19. Flash Hider (Fig 6).

A slotted tubular flash hider is screwed on to the muzzle and retained by a locking washer.

20. Foresight (Fig 6).

The foresight block is formed on a band which fits around the barrel. It is secured to the barrel by a lateral pin and dovetail seating; a cut across the top of the block, accommodates the foresight housing. Socket headed screws, one in each side of the block, provide lateral adjustment of the housing and also lock it in position. A spring retainer is fitted into the housing, the ends of which engage notches on the socket headed screws thus giving "clicker" adjustment. The foresight housing fits into the dovetail seating in the block. It is formed with two foresight protectors and is drilled vertically to receive the foresight. The foresight screws into the housing and the blade is undercut front and rear to give good sight definition at each half turn. Vertical adjustment of the foresight is obtained by rotation and it is secured against accidental rotation by a stirrup shaped retainer. Two sizes of foresight are available, No 1 approximately 11.08 mm (0.436 inches) high and No 2 approximately 9.8 mm (0.386 inches) high. The number of the foresight is stamped on the side of the blade.

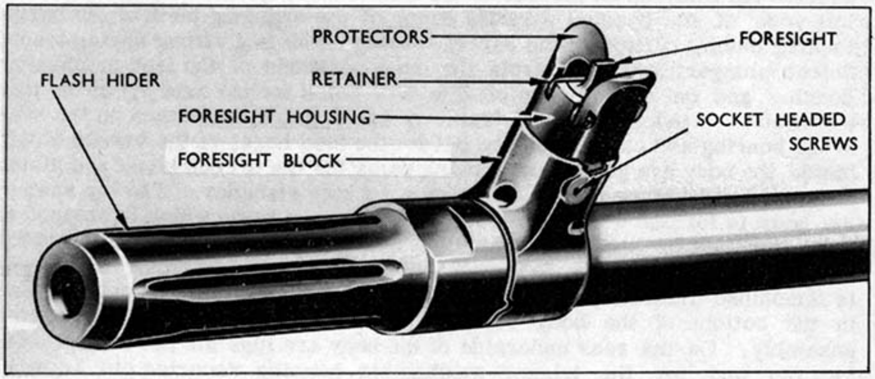


Fig 6 Flash Hider and Foresight

Body Assembly (Figs 7 and 8)

21. Body (Figs 7 and 8).

The body is made from plates riveted together and some components essential to the operation of the mechanism, are incorporated in the structure of the body, or permanently attached to it. At the front of the body a block is fitted which forms the barrel bearing and forward of this flats are formed for the location of the barrel. Interrupted threads inside the barrel bearing

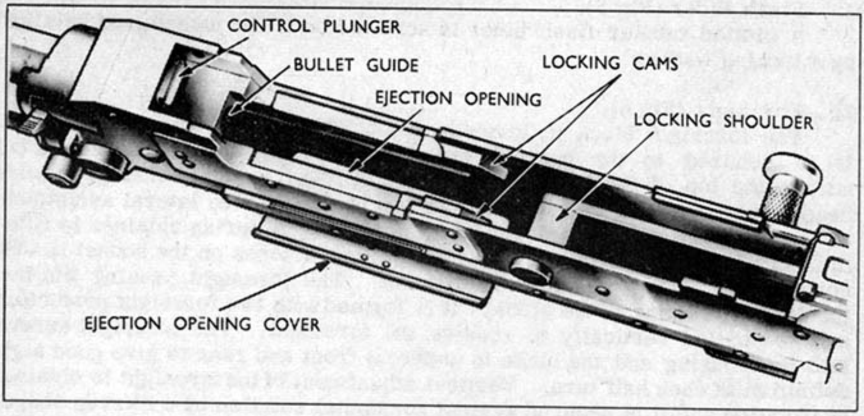


Fig 7 Body

receive the interrupted threads of the barrel locking nut whilst a hole in the left side of the bearing permits entry of the engaging teeth of the barrel locking catch. Fitted in the barrel bearing block is a strong spring-loaded detent plunger, which controls the open positions of the feed mechanism housing and on either side of this are holes for the axis pin of the feed mechanism housing and feed tray. A bullet guide is formed on the rear of the bearing and clearances are cut for the feed horns of the breech block. Inside the body are guides and locking cams for the breech block and piston assembly and between them is fitted a locking shoulder. The top rear of the body is formed with rearsight protectors on a ramp which is stepped to give elevation to the rearsight. Forward of this are lugs and slots for locating and locking the feed mechanism housing. The rear of the body is machined internally to receive the butt or recoil buffer and a recess in the bottom of the body receives the locating pin of the return spring assembly. On the rear underside of the body are lugs for the rear mounting pin and for the trigger mechanism housing securing pin; between them is an opening which receives the trigger mechanism. Also on the underside is the ejection opening with cover and cover securing pin housing. Forward of this the body accommodates the dust cover, front mounting pin housing and bipod retainer. Slots, cut in the body forward of the bipod retainer, receive the hooks of the bipod legs when the legs are in the folded position. On the left side of the body, below the feed tray, is a stud which is used in conjunction with recesses situated below it to attach a belt feed box to the gun when required; also fitted to the left side of the body is an IWS sight bracket. Fitted to the right side of the body are guide plates for the cocking handle slide and the body is slotted for the passage of the cocking stud.

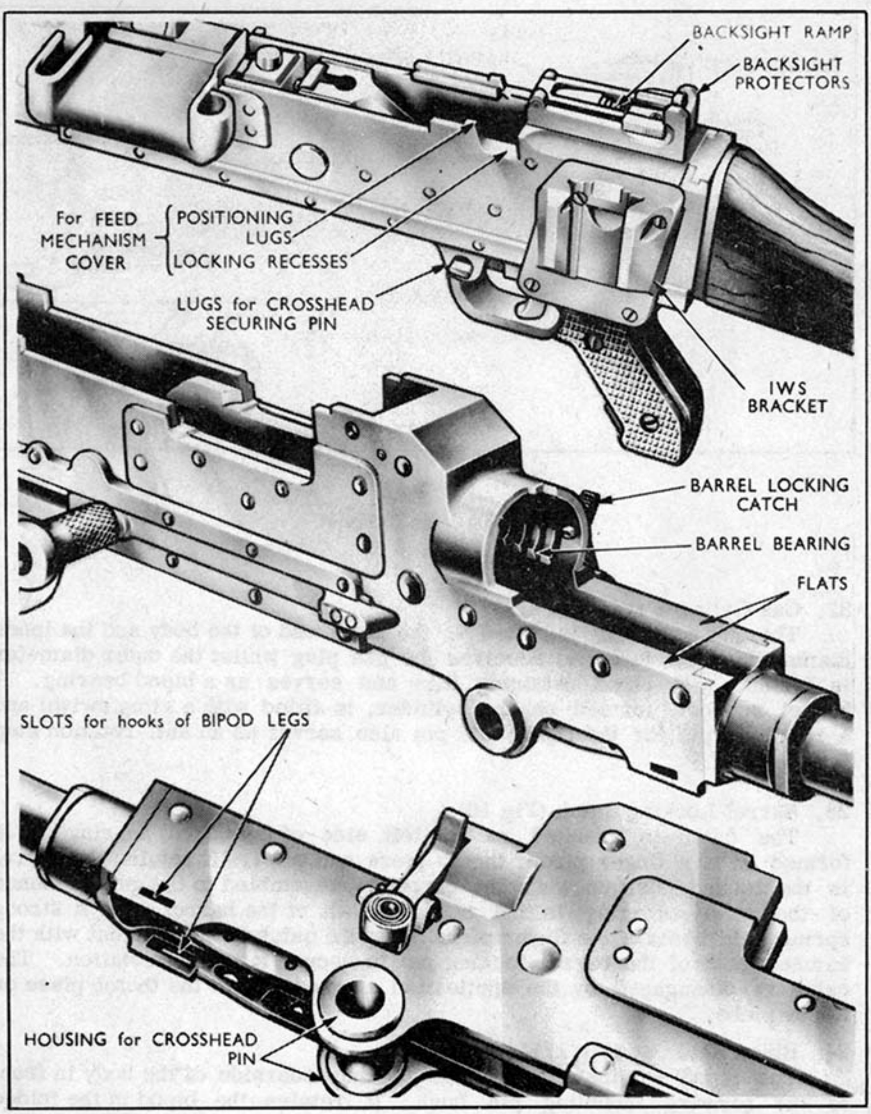

BACKSIGHT RAMP
BACKSIGHT PROTECTORS
For FEED MECHANISM COVER
POSITIONING LUGS
LOCKING RECESSES
LUGS for CROSSHEAD SECURING PIN
IWS BRACKET
BARREL LOCKING CATCH
BARREL BEARING
FLATS
SLOTS for hooks of BIPOD LEGS
HOUSING for CROSSHEAD PIN

Fig 8 Body

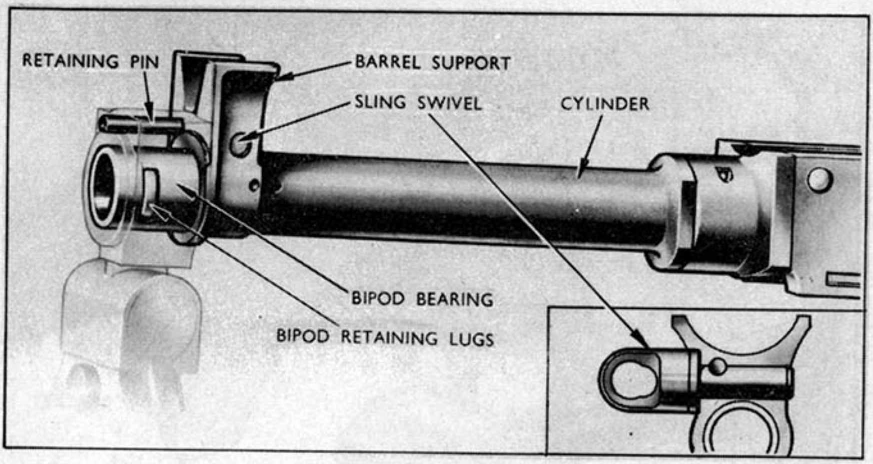


Fig 9 Gas Cylinder

22. Gas Cylinder (Fig 9).

The gas cylinder is fitted to the front end of the body and the inner diameter of the fore-end receives the gas plug whilst the outer diameter is formed with bipod retaining lugs and serves as a bipod bearing. A barrel support, formed on the cylinder, is fitted with a sling swivel and a retaining pin for the bipod; the pin also serves as an anti-rotation stop for the gun.

23. Barrel Locking Catch (Fig 10).

The catch is mounted on the left side of the barrel bearing and is formed with a finger piece, thumb piece and pawl. It retains the barrel in the locked position when the barrel is assembled to the gun by means of the pawl engaging in the ratchet teeth of the barrel nut. A strong spring held beneath the finger piece holds the catch in engagement with the ratchet teeth of the barrel locking nut to secure it against rotation. The catch is disengaged by the application of pressure to the thumb piece or finger piece.

24. Bipod Retainer (Fig 11).

The bipod retainer is situated on the underside of the body in front of the forward mounting pin bush. It retains the bipod in the folded position by sliding forward between the shoes of the bipod and preventing disengagement of the hooks from their recesses in the body; a ridged thumb grip facilitates movement of the retainer. The retainer is posi-

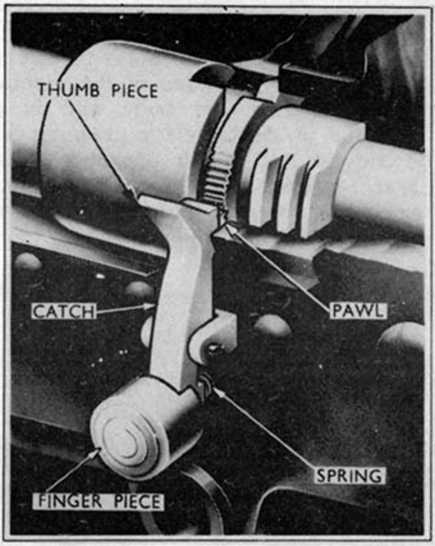


Fig 10 Barrel Locking Catch

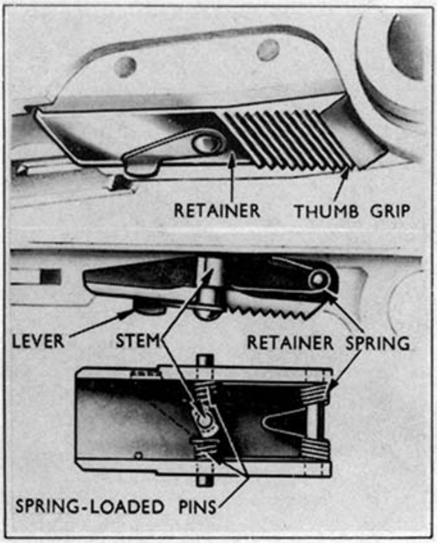


Fig 11 Bipod Retainer

tioned by pins operating in elongated recesses and by a spring held on the rear pin; this spring is held compressed between the retainer and the dust cover. Fitted to the retainer is a lever whose stem is rectangular in shape. When the lever is fully to the right two spring-loaded pins are forced outward to engage recesses in the gun body thus holding the retainer in its normal service position. When the lever is moved fully to the left the pins are permitted to return to the closed position under the influence of their springs. This action disengages the pins from the recesses in the gun body and permits the front end of the retainer to move downward to give access to the dust cover.

25. Dust Cover (Fig 12).

The cover is a plate of flat spring steel located on the underside of the gun body forward of the ejection opening. It is fitted to prevent dirt from entering the body and it can be removed to allow access to the interior of the body for cleaning purposes. The rear end is formed with a raised leaf which prevents rearward movement of the cover until the leaf is depressed. Two holes cut in the cover permit the entry of the nose of a round or tool to facilitate movement.

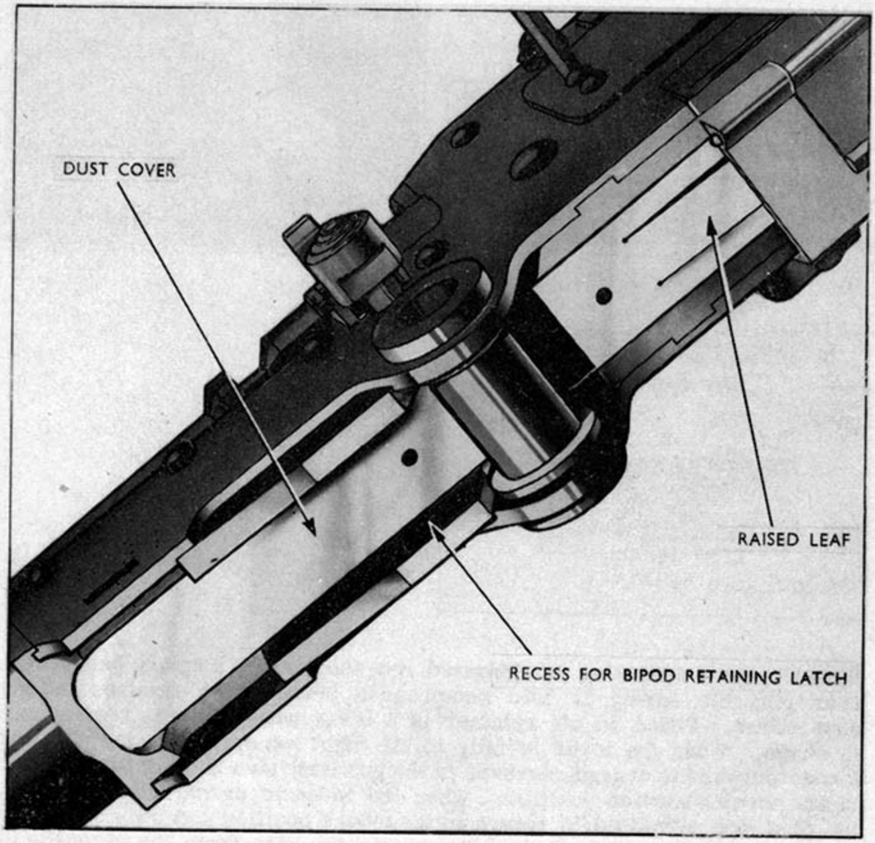


Fig 12 Dust Cover (Bipod Retainer removed)

26. Ejection Opening Cover (Fig 13).

The ejection opening cover is a flat plate hinged from the left underside of the body. It is held in the closed position by a catch on its upper face and it is opened and held in the open position by a spring which is located around the cover hinge pin. The catch holding the cover in the closed position is released by the piston striking against it during either forward or rearward movement of the piston.

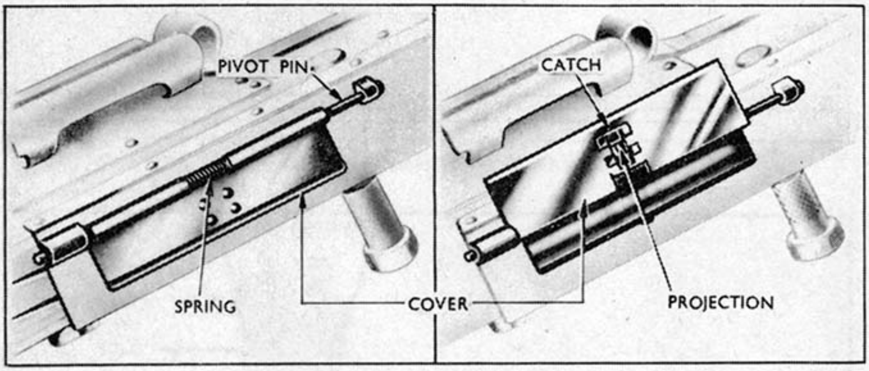


Fig 13 Ejection Opening Cover

27. Cocking Handle Assembly (Fig 14).

A knurled cocking handle is attached to a slide which runs between guides on the right side of the body. Secured to the slide by a pin is a cocking stud which protrudes through the right side plate of the body to engage the piston extension. A spring-loaded retaining catch holds the assembly when in the forward position.

28. Rearsight (Fig 15).

The rearsight hinges on the front of its ramp and is controlled by a spring-loaded plunger. It can be used in either the folded down or raised vertical position. Graduations are marked on the upper face at intervals of 100 from 200 to 800 metres with even numbers on the left and odd numbers on the right; range adjustments for this scale are at intervals of 100 metres. On the reverse face graduations are marked at intervals of 100 from 800 to 1800 metres with even numbers on the right and odd numbers on the left;

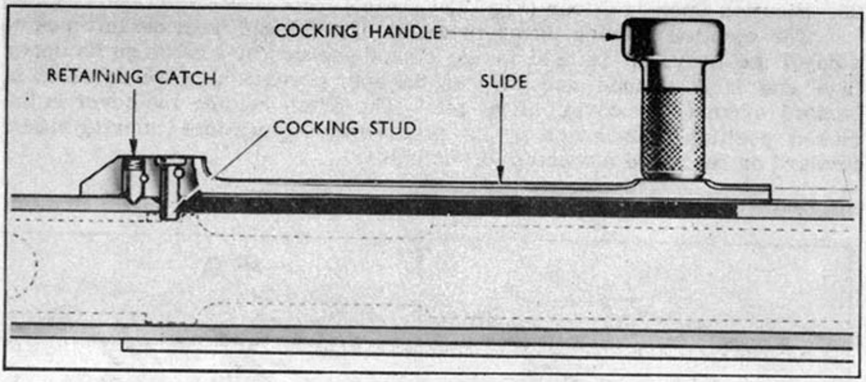


Fig 14 Cocking Handle assembly

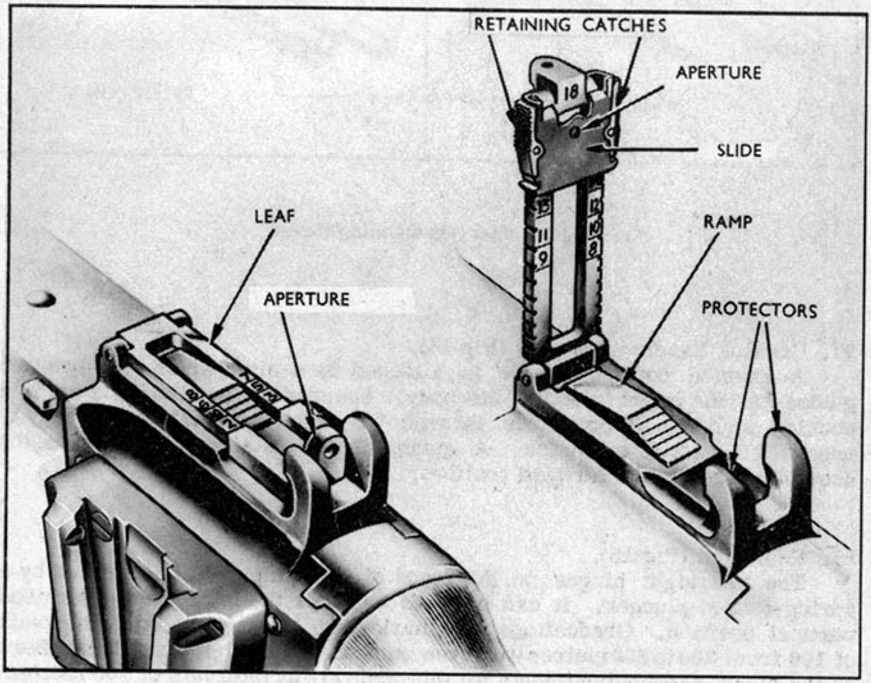


Fig 15 Rearsight

range adjustments for this scale are at intervals of 50 metres. Range adjustments are made by moving the slide along the leaf and are indicated by the leading edge of the slide when the leaf is in the folded position and by the top edge of the slide when the leaf is in the vertical position. Two spring-loaded catches hold the slide in position and alternately engage notches on the sides of the leaf. One aperture is formed at right angles to the leaf for use in the lowered position and one aperture is drilled through the slide for use in the vertical position. A stop screw is fitted to the leaf to prevent the slide from being lowered beyond the 200 metres graduation.

29. Feed Tray (Fig 16).

The feed tray is seated across the feed aperture in the body and it is pivoted at its front end on the cover axis pin. It is formed with a belt guide on the left, cartridge stops on the right and an aperture through which the ammunition is fed forward and downward into the chamber. The aperture is sufficiently narrowed at the rear to position the round for contact with the feed horns and widened at the front to permit passage of the round to the chamber.

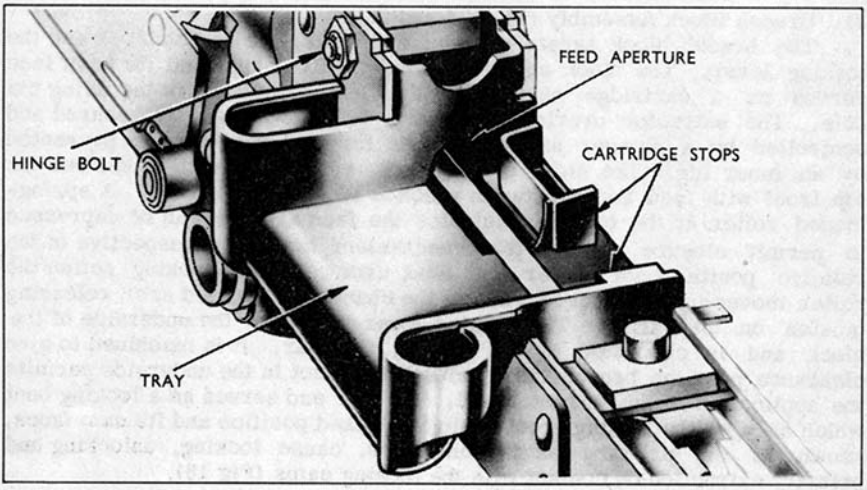


Fig 16 Feed Tray

30. Feed Mechanism Assembly (Fig 17).

The feed mechanism is contained in a housing which closes the top of the gun and hinges on the same axis pin as the feed tray. It is secured in the closed position by two catches mounted at the rear of the cover and controlled by a common spring; the catches engage in recesses cut in the side plates of the gun body. The housing is held in the open position by the detent plunger engaging flats at the front end. A channelled feed arm which pivots inside the housing, is forked at the front end to actuate the feed pawl assembly and is controlled and retained by springs. Three spring-loaded feed pawls, one inner and two outer, comprise the feed pawl assembly which is retained by a circlip. The feed pawls are attached to two plates connected at pivot points to an arm actuated by the feed arm and are slotted to move about a roller. The cartridge pawls pivot on a pin in the right side of the housing and operate together or independently against spring pressure. They have been designed to give increased control over the round during feeding and also to provide positive link stripping.

Breech Block and Piston Assemblies (Figs 18, 19 and 20)

31. Breech Block Assembly (Figs 18 and 20).

The breech block assembly is in two parts, the breech block and the locking lever. The block accommodates the firing pin and its front face serves as a cartridge seating in the centre of which is the firing pin hole. The extractor overlaps the cartridge seating and is secured and controlled by a plunger and spring; its forward movement is prevented by an inner lug. The sides of the block are formed with guides and the top front with feed horns between which is located the ejector. A spring-loaded roller at the top rear actuates the feed arm and can be depressed to permit closure of the feed mechanism housing irrespective of the relative positions of roller and feed arm. During cocking action the roller moves into correct location in the channel of the feed arm, releasing tension on the spring. The locking lever pivots on the underside of the block and is connected to the link at the rear. It is machined to give clearance past the breech block guides and a slot in the underside permits the application of the extractor tool. Its rear end serves as a locking bent which engages the locking shoulder in the locked position and its cam faces, known as the primary extraction faces, cause locking, unlocking and primary extraction on contact with the locking cams (Fig 18).

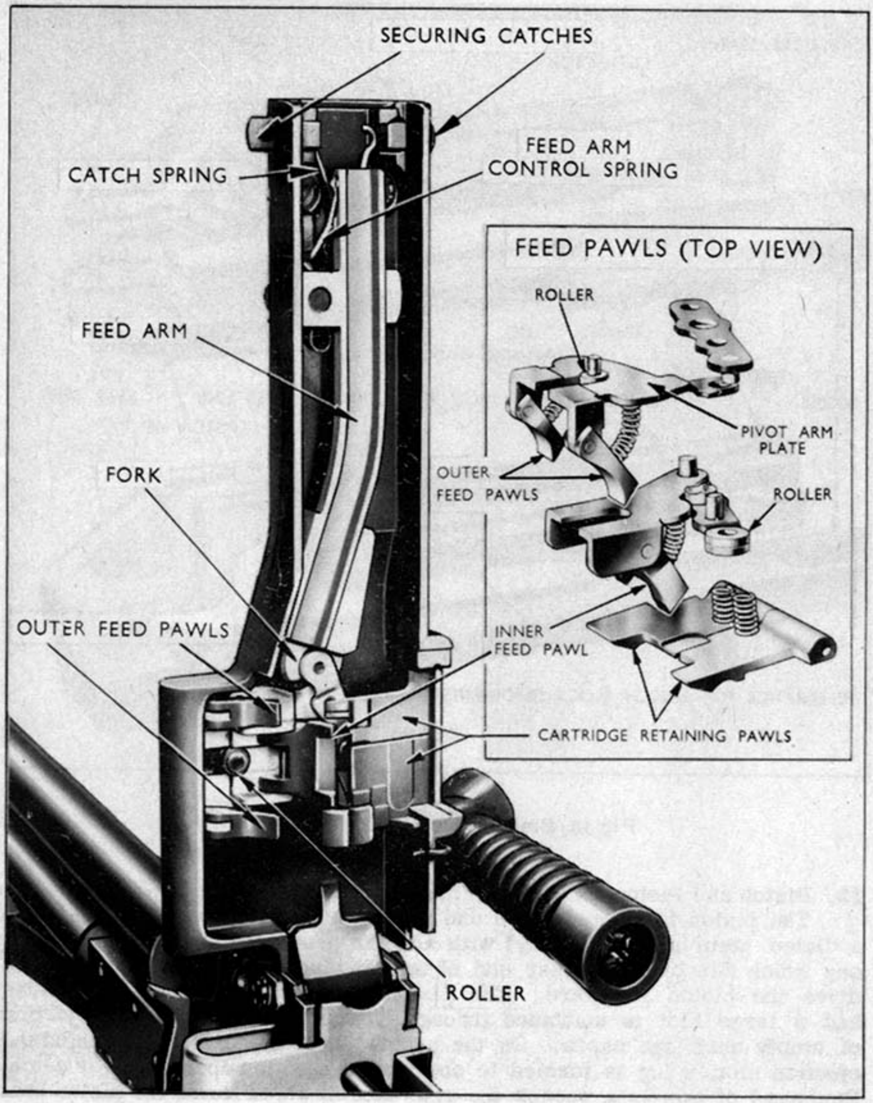


Fig 17 Feed Mechanism assembly

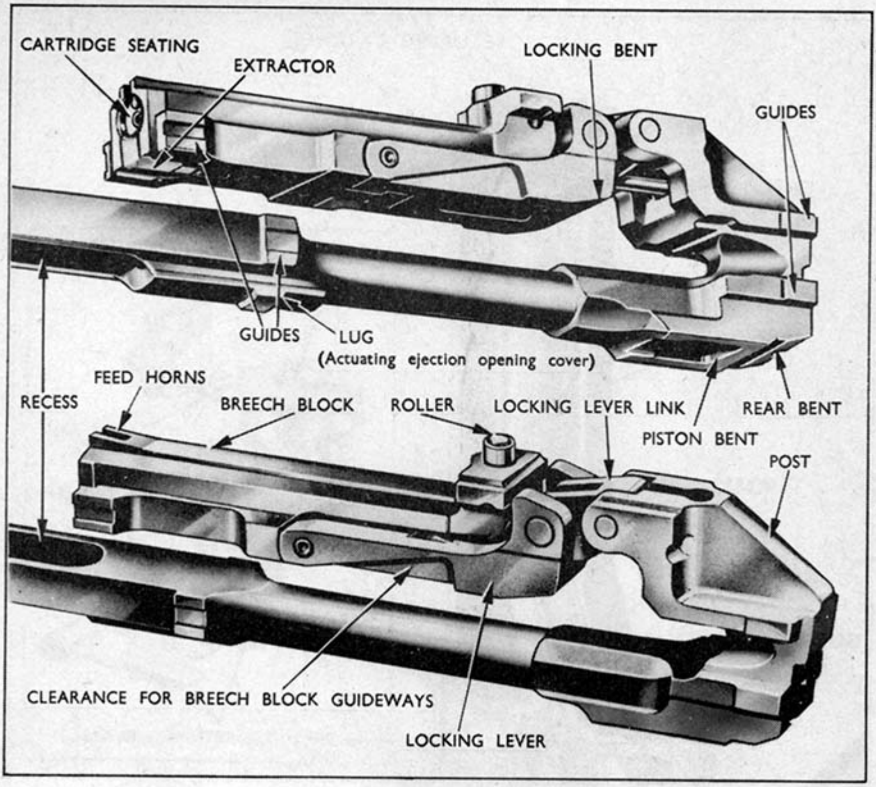


Fig 18 Breech Block and Piston assembly

32. Piston and Piston Extension (Figs 18, 19 and 20).

The piston is screwed into and pinned to the piston extension. It has a fluted stem and is formed with annular gas sealing collars and with a cup which fits over the rear end of the gas plug and receives the gases to drive the piston rearward. The piston extension is formed with guides and a large slot is machined through it to permit the downward ejection of empty cartridge cases. On the underside of the extension, behind the ejection slot, a lug is formed to operate the ejection opening cover catch. Rearward of this is a recess the rear face of which forms the piston bent for engagement with the sear. It accommodates the return spring in a bore at the rear end and a slot in the lower rear face provides clearance for the locating pin of the return spring rod. The front face of the piston

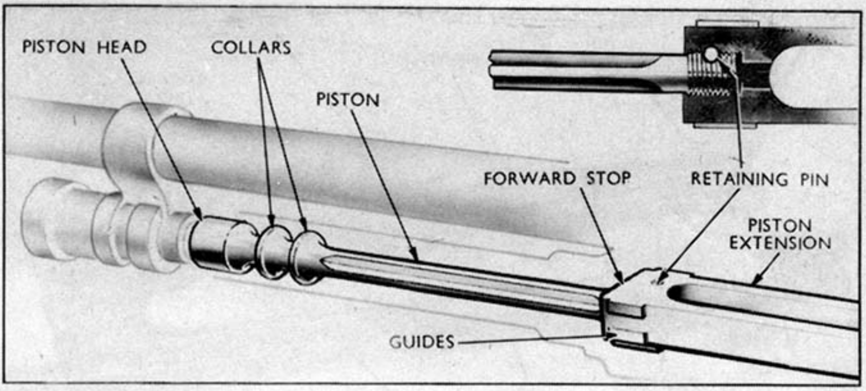


Fig 19 Piston

extension contacting the rear of the gas cylinder limits its forward movement whilst its rear face serves as a buffer contact; the bottom rear edge of the extension also serves as a bent to engage the sear tripper. The extension is formed into a post at the rear, the post having guides and is also machined to permit clearance of any accumulated sand or dirt. The post accommodates the rear end of the firing pin and receives the axis pin of the locking lever link.

33. Return Spring Assembly (Fig 20).

The return spring rod is held under slight compression on a telescopic rod and the front end of the assembly is housed in the piston extension. A locating pin formed on the rear end of the rod seats in a recess in the body and a slotted lug formed at the rear end receives the guides of the butt or recoil buffer when either is assembled to the gun.

34. Locking Lever Link (Fig 20).

The locking lever link conects the locking lever to the piston extension post and pivots on axis pins in both. It is slotted to permit passage of the firing pin and is formed with two stop faces on its underside for positioning against the locking lever. The locking lever link is the means of forming a breech seating toggle joint at the moment of firing.

Trigger Mechanism Assembly (Fig 21)

35. Pistol Grip (Fig 21).

The pistol grip is a metal frame with two side stocks secured by screws.

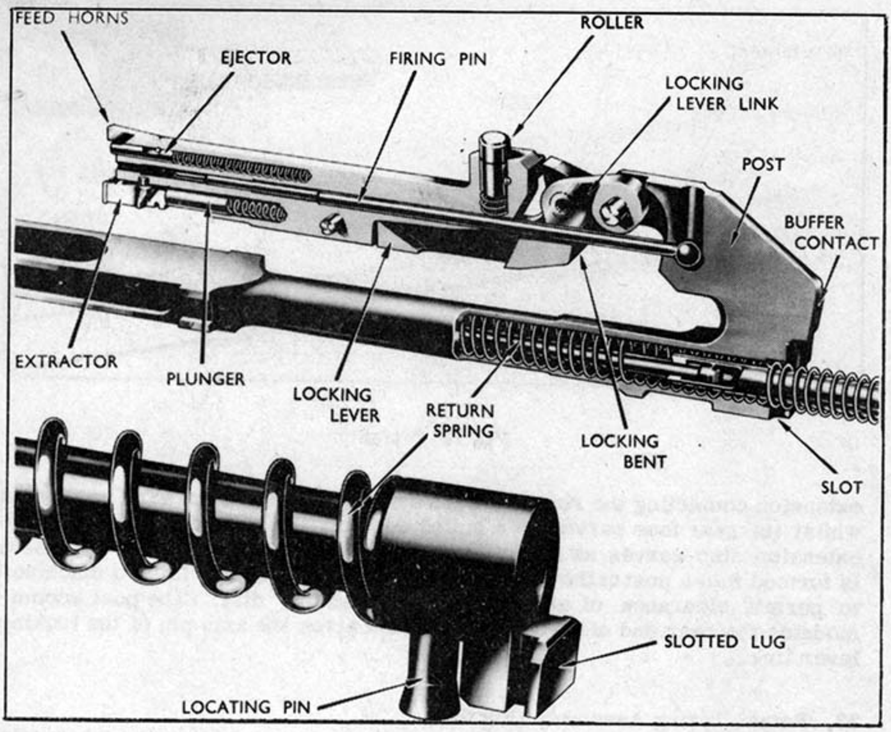


Fig 20 Breech Block assembly, Piston assembly and Return Spring assembly

It houses the trigger mechanism and is attached to the body of the gun by a lip on the front edge and by a joint pin and bush at the rear. A removable trigger guard is hooked and pinned into the pistol grip frame. A hole drilled transversely through the front of the pistol grip aligns with similar holes on the body and is for the assembly of the rear mounting pin when the gun is mounted on the tripod.

36. Trigger Mechanism (Fig 21).

This is housed in the frame of the pistol grip. The trigger and sear pivot on axis pins and are controlled by a common spring which is coiled at the centre and extends in two arms. The trigger carries a spring-loaded sear tripper which straddles the tail of the sear and works in conjunction with it. The sear tripper projects into the piston extension runway in the body of the gun. The sear has two bents the forward of which is designed to prevent accidental feeding and firing of a round.

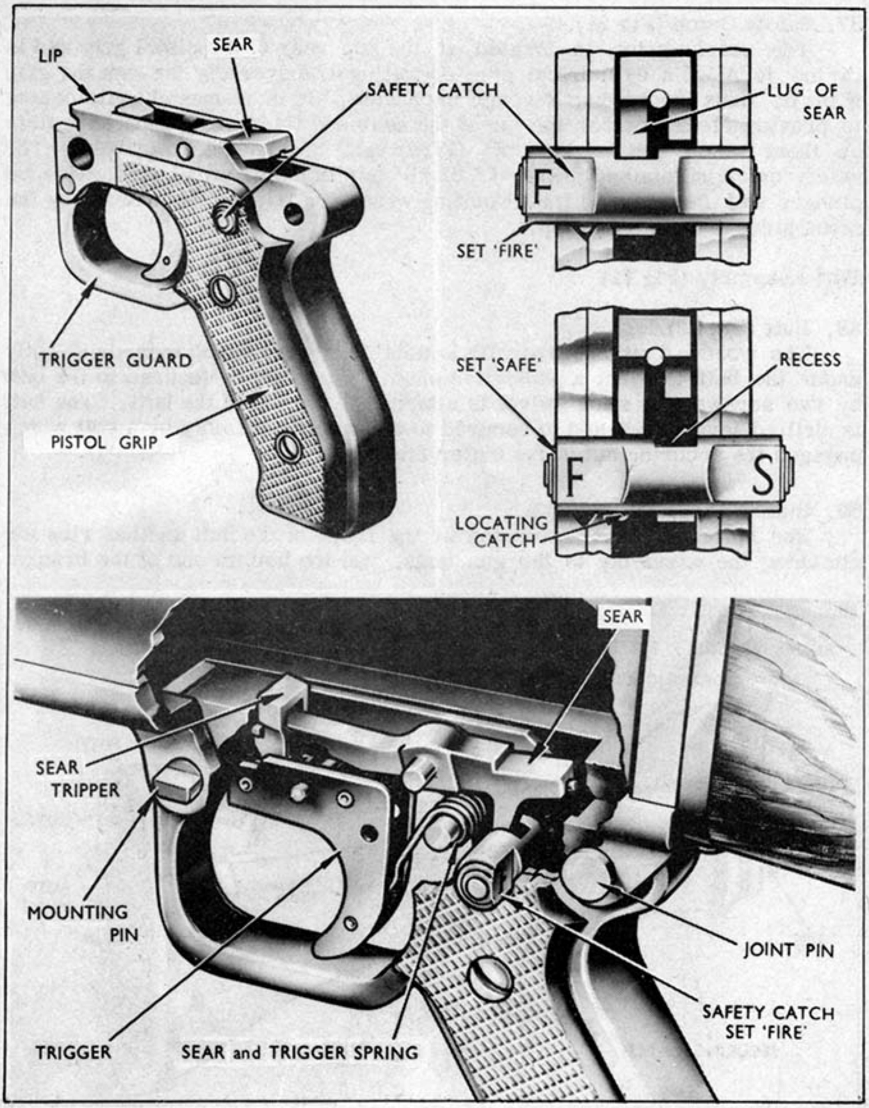


Fig 21 Trigger Mechanism assembly

37. Safety Catch (Fig 21).

The safety catch is located at the top rear of the pistol grip and is in the form of a cylindrical plug operating transversely through the grip with its ends protruding through each side. It is recessed at its centre to provide clearance for the lug of the sear and its knurled ends have flats on them which are marked "F" (Fire) and "S" (Safe) respectively. The safety catch is retained in the "F" or "S" position by a small spring-loaded plunger and is prevented from rotating within the trigger mechanism by the stock sides of the pistol grip.

Butt Assembly (Fig 22)

38. Butt (Fig 22).

The wooden butt is fitted with a metal butt plate which extends slightly under the butt to form a protective shoe. The plate is secured to the butt by two screws. A sling swivel is attached to the top of the butt. The butt is drilled lengthways and is secured to the buffer assembly by a bolt which engages the securing nut of the buffer tube.

39. Buffer Assembly (Fig 22).

The buffer bracket is located at the front of the butt and has ribs for attaching the assembly to the gun body. On the bottom end of the bracket

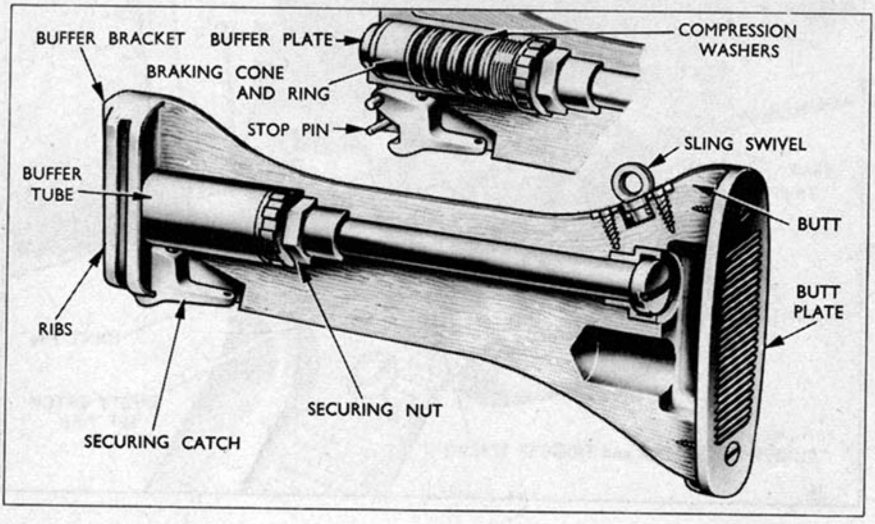


Fig 22 Butt assembly

a recess and a lug is formed to house the rear end of the return spring rod when the butt is assembled to the gun body. When the butt is assembled to the gun body the return spring assembly is pushed slightly forward thus removing the strain from the return spring rod locating pin. The butt retaining catch is located at the bottom of the bracket and a stop pin limits the forward movement of the catch when the butt assembly is removed from the gun. A hole in the bracket allows the buffer plate to protrude forward and extending rearward from the bracket, inside the butt, is the buffer tube. The buffer, housed inside the buffer tube, consists of buffer plate, braking cone and ring, spring compression washers and the securing nut. The securing nut is threaded internally at the rear to receive the bolt which holds the butt assembly together.

Bipod Assembly (Figs 23 and 24)

40. Bipod (Fig 23).

The bipod is located on interrupted flanges on the front end of the gas cylinder. It is secured in position by a pin which is driven forward

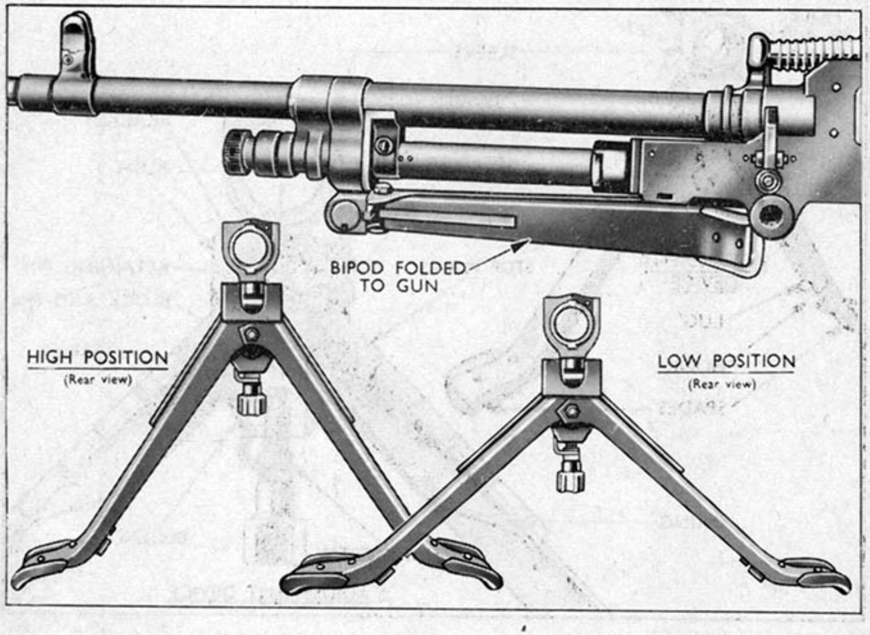


Fig 23 Bipod assembly

through the barrel guide into a recess in the bipod sleeve permitting limited rotation of the bipod on the cylinder. A hole in the sleeve permits entry of a drift for stripping purposes, and on the underside of the sleeve is a stem, recessed and grooved to receive the bush retaining pin and swivel plunger. The latter is housed in the right side of the bracket and bears against the sleeve stem to limit rotation of the gun. The bracket is recessed at the top to permit rearward folding of the legs and is formed with lugs and slots for the attachment and adjustment of the legs. It houses the bush which in turn accommodates the sleeve stem in which slots coincide with slots in the bracket for location of the leg stop plates. The legs are bolted to the bracket and stop plates fitted to them engage the slots in the bracket and bush to give rigidity. The legs are fitted with springs which keep them in the splayed position. Spades at the extremities of the legs ensure a firm leverage in the ground and near these are hooks and lugs which secure the legs to the gun body in the folded position.

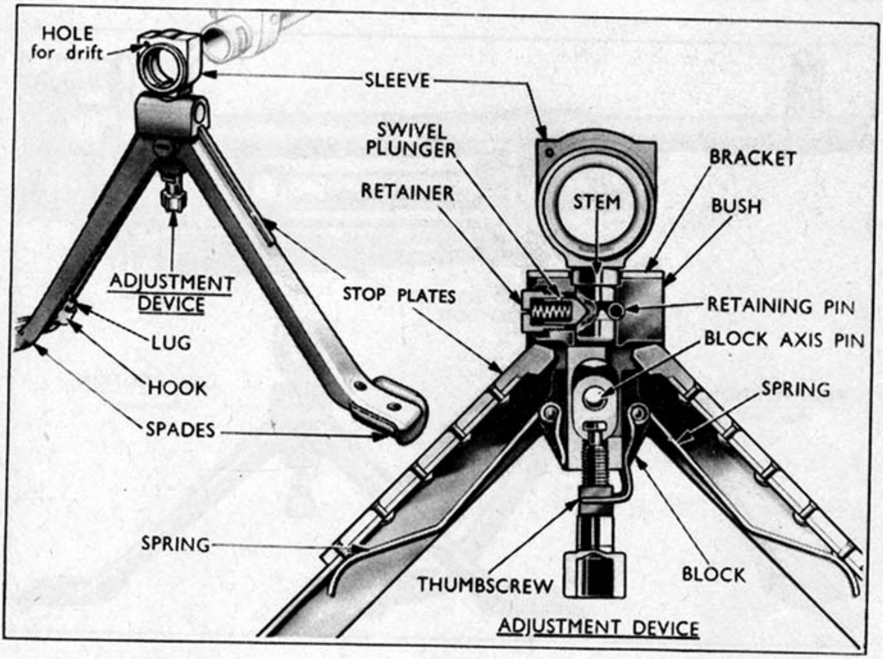


Fig 24 Bipod – Adjustment Device

41. Bipod Adjustment Device (Fig 24).

The height of the gun can be varied by opening or closing the bipod legs by means of an adjustment device aided by the springs bearing against the insides of the legs. The adjustment device is fitted between the bipod legs and is operated by a thumbscrew which moves a block UPWARD when rotated CLOCKWISE and DOWNWARD when rotated ANTI-CLOCKWISE. This block has a common axis for the legs and slides vertically in the bracket carrying the axis with it as it moves; this movement has the effect of bringing the legs up or down. The legs can be closed together and folded irrespective of the position of the block by pivoting on their common axis. Accidental rotation of the adjusting screw is prevented by the tail of the spring, on the left leg of the bipod, fitting over a squared section on the adjusting screw stem.

SECTION 4 - SUSTAINED FIRE CONVERSION KIT

General

42. A sustained fire conversion kit, (Figs 25 and 26), consists of the following items:

a. **Holdall, SA, No 1, Mk 1, containing:**

(1) Tripod	**1.**
(2) Tripod dial sight bracket	**1.**
(3) Triangular tripod marker plate	**1.**

b. **Holdall, SA, No 2, Mk 1, containing:**

(1) Sightunit, C2, 7.62 mm Machine Gun, Trilux, Cased L2A1, containing:

(a) Sightunit, C2, Trilux	**1.**
(b) Adaptor, objective, anti-parallax L1A1	**1.**
(c) Light, marker, trilux, green, L1A1	**1.**
(d) Mask, lampunit, L1A1	**1.**
(e) Releasing tool, sight, No 1 Mk 1	**1.**

(f) Buffer, recoil, 7.62 mm MG Mk 1	1.
(g) Pin, rear mounting, 7.62 mm MG	1.
(h) Screwdriver	1.
(j) Peg, positioning, weapon, 7.62 mm MG	3.
(k) Case, Sightunit, L1A1	1.
(2) Sustained fire barrels	2.
(3) Spare return spring	1.
(4) Aiming posts	2.

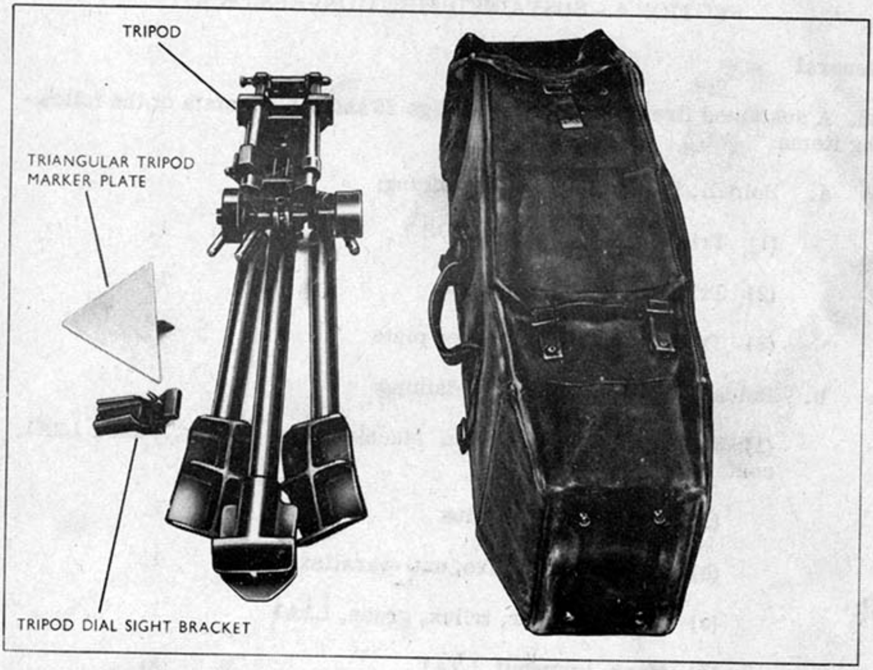


Fig 25 Holdall SA No 1 Mk 1

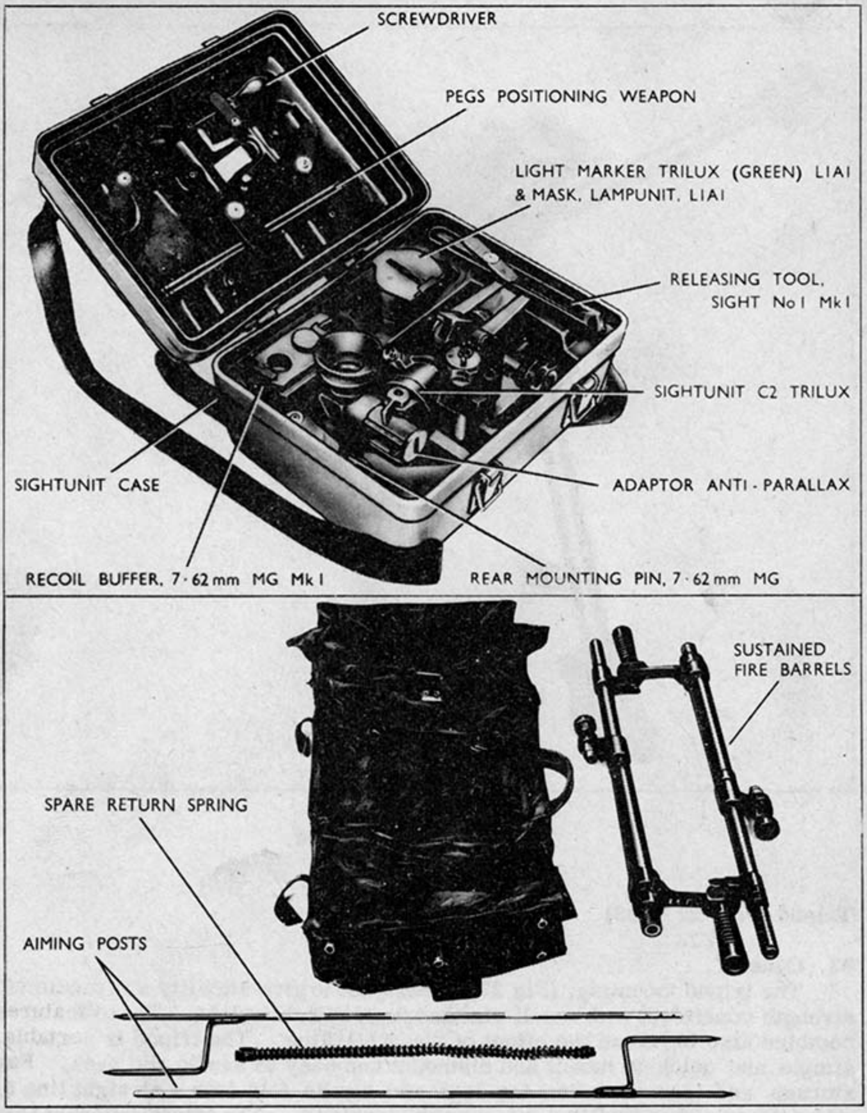

SCREWDRIVER
PEGS POSITIONING WEAPON
LIGHT MARKER TRILUX (GREEN) L1A1 & MASK, LAMPUNIT, L1A1
RELEASING TOOL, SIGHT No 1 Mk 1
SIGHTUNIT C2 TRILUX
SIGHTUNIT CASE
ADAPTOR ANTI - PARALLAX
RECOIL BUFFER, 7·62 mm MG Mk 1
REAR MOUNTING PIN, 7·62 mm MG
SUSTAINED FIRE BARRELS
SPARE RETURN SPRING
AIMING POSTS

Fig 26 Holdall SA No 2 Mk 1

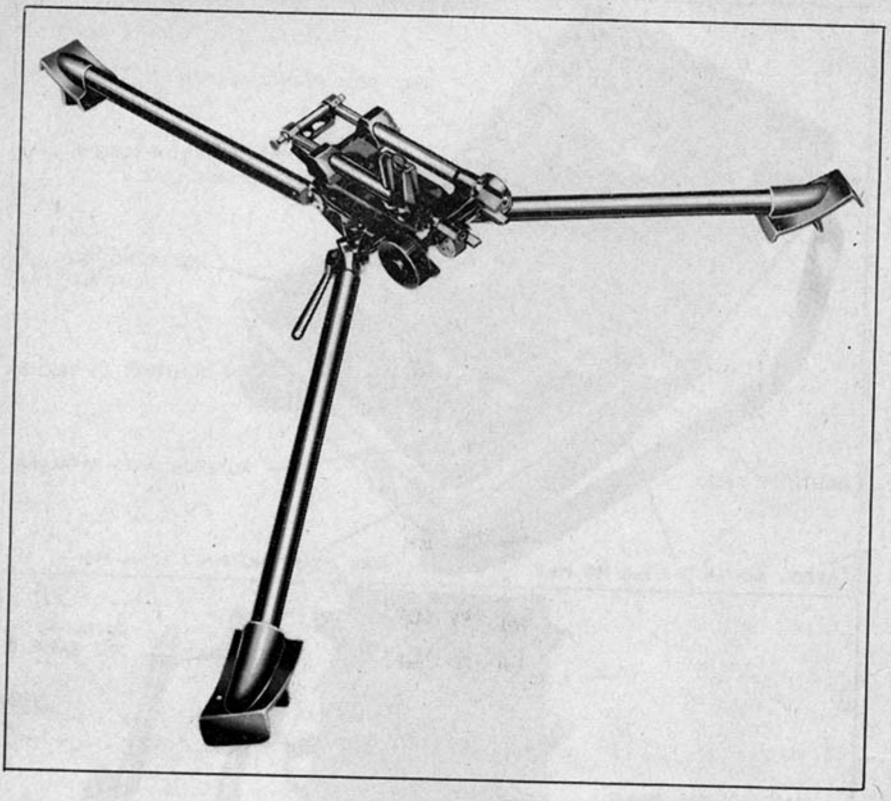


Fig 27 Tripod Mounting

Tripod (Figs 27 to 33)

43. General.

The tripod mounting, (Fig 27), is designed to give stability and maximum strength consistent with small size and desired light weight. These features combine also to lessen the effect of rough handling. The tripod is portable, simple and quick to mount and dismount and easy to handle and pack. For storage and transportation the legs and cradle fold into a straight line to allow the tripod to be fitted into a webbing holdall. The tripod incorporates its own recoil buffer unit, permits all round traverse and has a quick release mechanism allowing free traverse, elevation and depression. It is an adjustable type of mounting for use in any terrain and the feet are designed to give maximum anchorage on all types of ground regardless of the angle of the ground to the leg position.

44. Examples of the tripod mounted in various positions are shown in Figs 28 to 31. The long leg is normally positioned to the rear except when the tripod is mounted on a forward slope, or side bank, when the long leg should be pointed down the slope; the long leg is also positioned forward when the gun is in a fire trench. Any leg can be secured above the horizontal, thus permitting the tripod to be mounted almost anywhere regardless of the ground contour. This facility allows a rigid position to be maintained, particularly from reverse and side slope when the two short legs are above the horizontal, acting as struts, thereby allowing the maximum effect from the long leg.

45. Design Features.

Some of the features incorporated in the tripod design are:

a. All round traverse of 6400 mils.

b. Adjustable elevation for any angle up to 400 mils and adjustable depression for any angle up to 200 mils.

c. Fine adjustment controls covering 200 mils of traverse and 100 mils of elevation and depression.

d. Quick release control for both lateral and vertical movement.

e. Adjustable legs to give a sight line at any height between 330 mm (13 inches) and 675 mm (25 inches) above ground level and to provide a level mounting on uneven ground. In addition, the elevation and depression angles of the gun may be set by adjusting the spread of the legs.

f. Dial ring with easily read scale to set angle traverse without recourse to auxiliary aiming marks.

g. Buffer system to give stability under all firing conditions.

h. Accuracy is maintained throughout 6400 mils of traverse from a normal emplacement area and is also satisfactory from all other types of ground up to and including a 445 mil (25 degree) bank.

j. Minimum maintenance required.

46. Tripod Mounting (Figs 27 to 33).
The mounting consists of:

a. Three legs (two short one long).

b. Tripod head.

c. Cradle and recoil unit.

d. Elevating mechanism.

e. Traversing mechanism.

47. Legs (Fig 27).
The tripod head is supported by three tubular steel legs. Each leg pivots on a bolt at its upper end and is fitted with a shoe which is webbed on the underside to give added stability to the erected tripod. A circular serrated clutch face at the upper end of each leg engages a similar clutch face on the tripod head when the leg lock lever is folded inward against the leg. The leg lock lever is attached to the end of the pivot bolt on a hinge pin. The hinged end of the handle has a cam face so that the action of folding the handle INWARD, forces the leg clutch face into engagement with the head clutch face and SECURES the leg in the desired position. When the leg lock lever is pulled OUTWARD the clutch faces are forced apart by a coil spring which is located on the pivot between the clutch faces thus FREEING the leg. Settings for the high and low positions are indicated by notches on the legs and on the tripod head at the junction of the clutches.

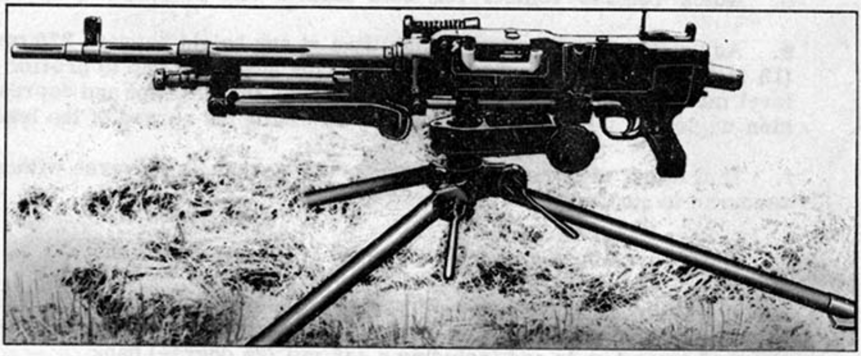


Fig 28 Low position

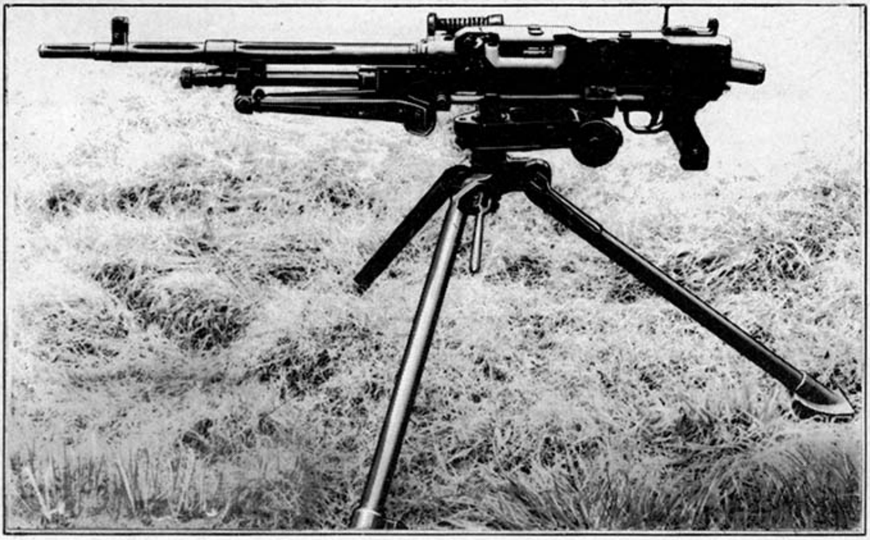


Fig 29 High position

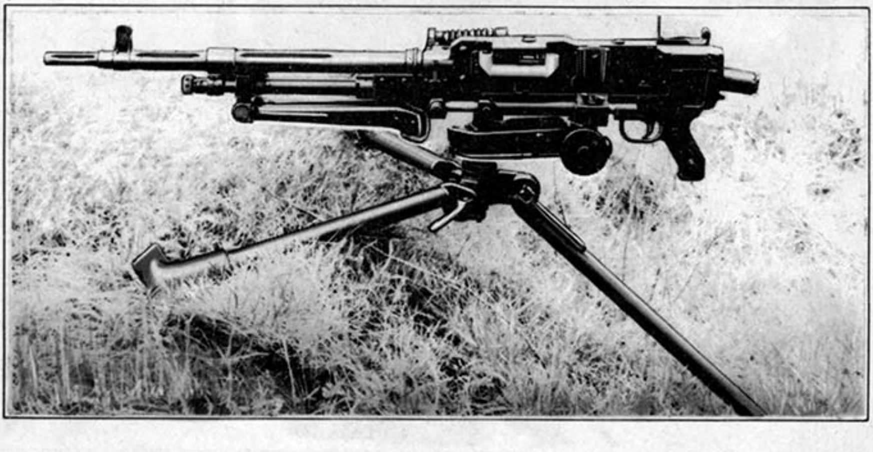


Fig 30 Reverse slope

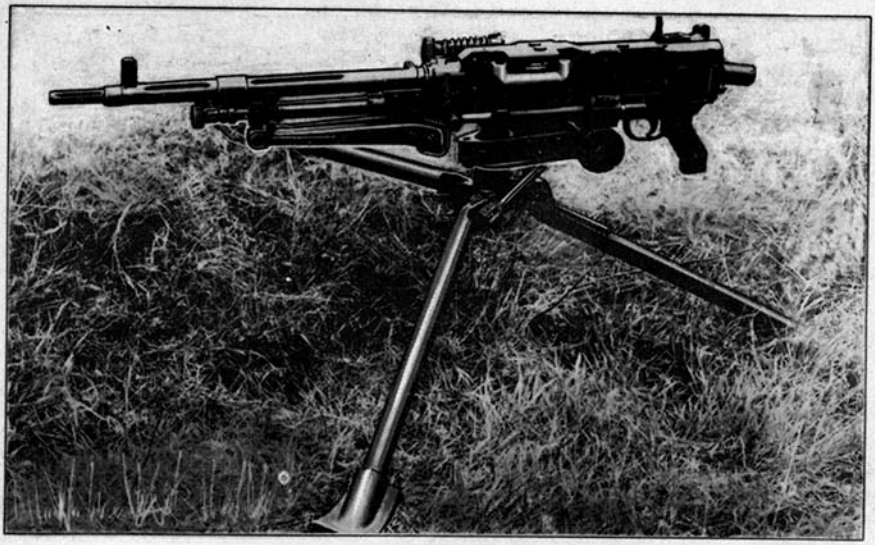


Fig 31 Side bank

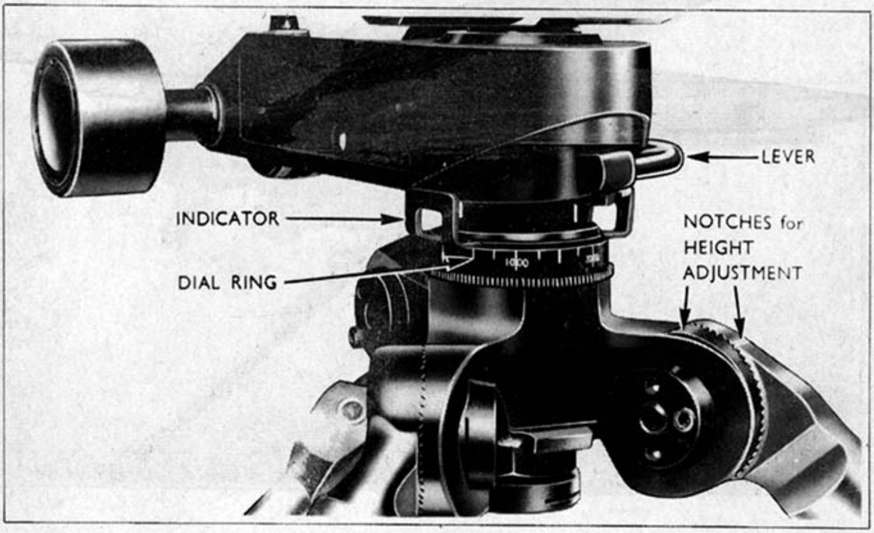


Fig 32 Tripod Head

48. Tripod Head (Fig 32).

Three lugs formed on the tripod head receive the leg pivots and clamps. They are formed with clutch faces and are notched to position the legs at the required height. The dial ring, in the form of a split collar, is held in position by friction and can be rotated to any required position by hand. It is engraved with a traverse scale graduated every 250 mils and numbered every 1000 mils from 0 to 3200 mils in both directions. The indicator moves with the head and a line on it is applied against the scale on the dial ring to denote the amount of traverse.

49. Cradle and Recoil Unit (Fig 33).

The design of the cradle embodies a totally enclosed buffer system of tubes, buffers and springs thereby preventing the ingress of dirt on to the working parts. The gun is secured to the recoil unit by two mounting pins. The rear one has flats at each end for engagement in the rear mounting bracket and is either permanently fitted to the gun or carried in the sightunit case. The front mounting pin is held captive in the front gun mounting of the cradle by a socket headed screw and a keyway, and when pushed in is retained by a ball and spring. Attachment of the cradle mechanism to the tripod head is through the medium of a ball joint where a fixed cone grips the upper surface of the ball and a movable cone grips the lower surface. The cones are clamped by a quick release lever which pivots at the front of the cradle. A catch in the handle of the lever engages a stud on the left of the cradle in the clamped position, and it is disengaged by pressing down slightly on the lever and rotating it to the left. When the pressure on the ball is released, free and simultaneous traverse and elevation through 6400 mils and 600 mils respectively is permitted. A scraper ring, aided by a gasket between seating and clamp, operates on the surface of the ball to keep it clear of sand and mud. A tapered spigot formed on the underside of the ball passes through the tripod head and is secured by a locknut, whilst the forked support of the recoil unit passes through the centre of the ball and is retained by a collar and pin on the underside of the tripod head. A cartridge case deflector is fitted to the cradle and a dial sight bracket housing is fitted to the rear left of the recoil unit. The housing is dovetailed to receive the sight bracket and its slot is so shaped as to afford positive positioning and securing of the bracket.

50. Elevation Mechanism (Fig 33).

Fine adjustment of elevation is made by using the elevation mechanism which is operated by a handwheel located on the left side. Control is by eccentric cam fixed at the rear of the cradle and locked in position by a thumb lever which is tightened by upward rotation. When the handwheel is rotated it operates the cam which in turn raises or lowers the rear end of the recoil unit. A line engraved on the left of the cam, coinciding with a line on the mechanism casing, indicates the mean point of elevation.

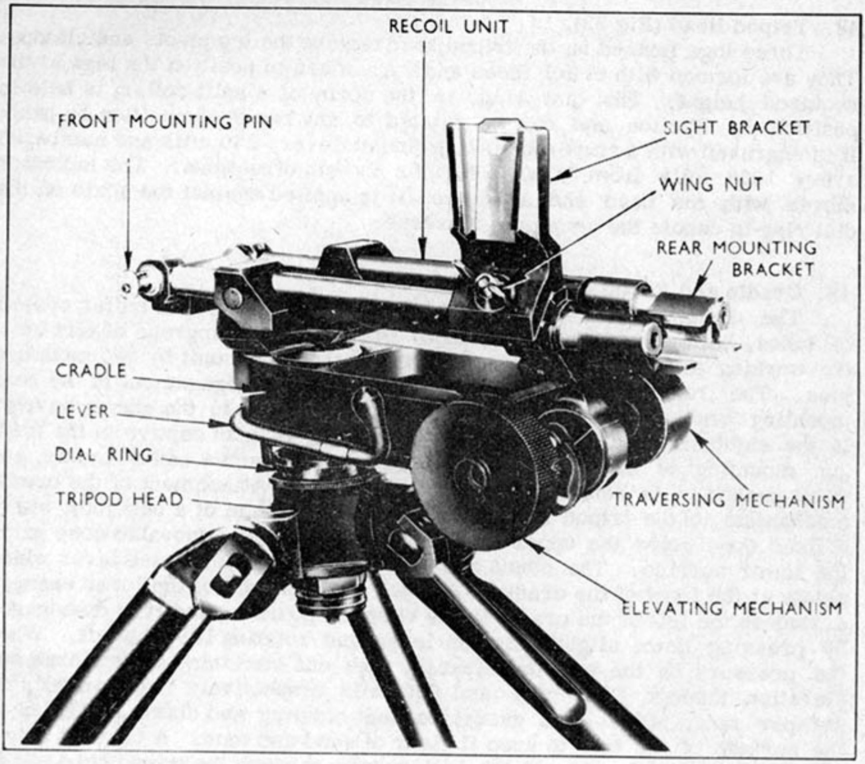


Fig 33 Cradle and Recoil Unit

51. Traversing Mechanism (Fig 33).

Fine adjustment of traverse is made by using the traversing mechanism which is operated by a handwheel located on the right side. To move the muzzle of the gun to the RIGHT the handwheel must be turned clockwise and vice versa. Control is by means of a sliding sleeve which, when pulled OUT gives INDEXED (clicker) control and when pushed IN, gives SMOOTH control. Range of traverse is 200 mils and one complete turn of the handwheel traverses the unit 6.6 mils. On indexed control each 'CLICK' gives 2.2 mils, ie, three clicks per complete turn.

Tripod Dial Sight Bracket (Fig 25)

52. The dial sight bracket is dovetailed and recessed to receive and locate

the supporting bracket of the sightunit. A dovetail at the bottom rear fits over the housing on the recoil unit of the tripod mounting. A wing nut secures the sight bracket by tightening on a spring-loaded bolt which is flanged to locate it in the housing.

Triangular Tripod Marker Plate (Fig 25)

53. The tripod marker is a white triangular metal plate with a folding leg on its underside. It is used to mark the tripod position and is placed on the ground in the centre of the tripod position with its corners pointing along the line of the tripod legs.

Sightunit, C2, Trilux (Figs 34 and 35)

54. General.

The sightunit is designed for use with the GPMG in the SF role and also for use with the 81 mm mortar. It is used on the GPMG to record direction and elevation for direct fire by day and night. Its supporting bracket is dovetailed and fitted with a latch to secure the sightunit in position in the tripod sight bracket. The instrument mounts a telescope and incorporates bearing and elevation assemblies. Angular movement of the sightunit, in both bearing and elevation, is effected by means of worm gear.

55. Telescope.

A right-angled telescope, having a magnification of 1.7 diameters and a field of view of 180 mils is supported between two lugs on top of the sightunit. The telescope is capable of free movement, in elevation, through an angle of 700 mils and may be secured in any position by a locking lever fitted to the left trunnion. The telescope housing is provided with an open sight to facilitate rough alignment on to the target. For the convenience of the user and also to clear the open sight the eyepiece may, if required, be rotated 1600 mils right or left from the vertical.

56. Bearing Assembly (Figs 34 and 35).

The bearing assembly comprises coarse and fine bearing scale rings and a worm gear:

a. Coarse Bearing Scale Ring.

The coarse scale ring encircles the base of the rotating head and is graduated in hundreds of mils from 0 to 6400. It is numbered every 200 mils in a clockwise direction and is read against either of two indexes engraved on the scale ring housing. The upper index is for deflection readings and is aligned with the upper zero mark on the scale to set the telescope to a known angle to the line of fire when first coming into action; the lower index is for bearing readings and is used to lay off angles of bearing to the nearest 100 mils. The scale ring is

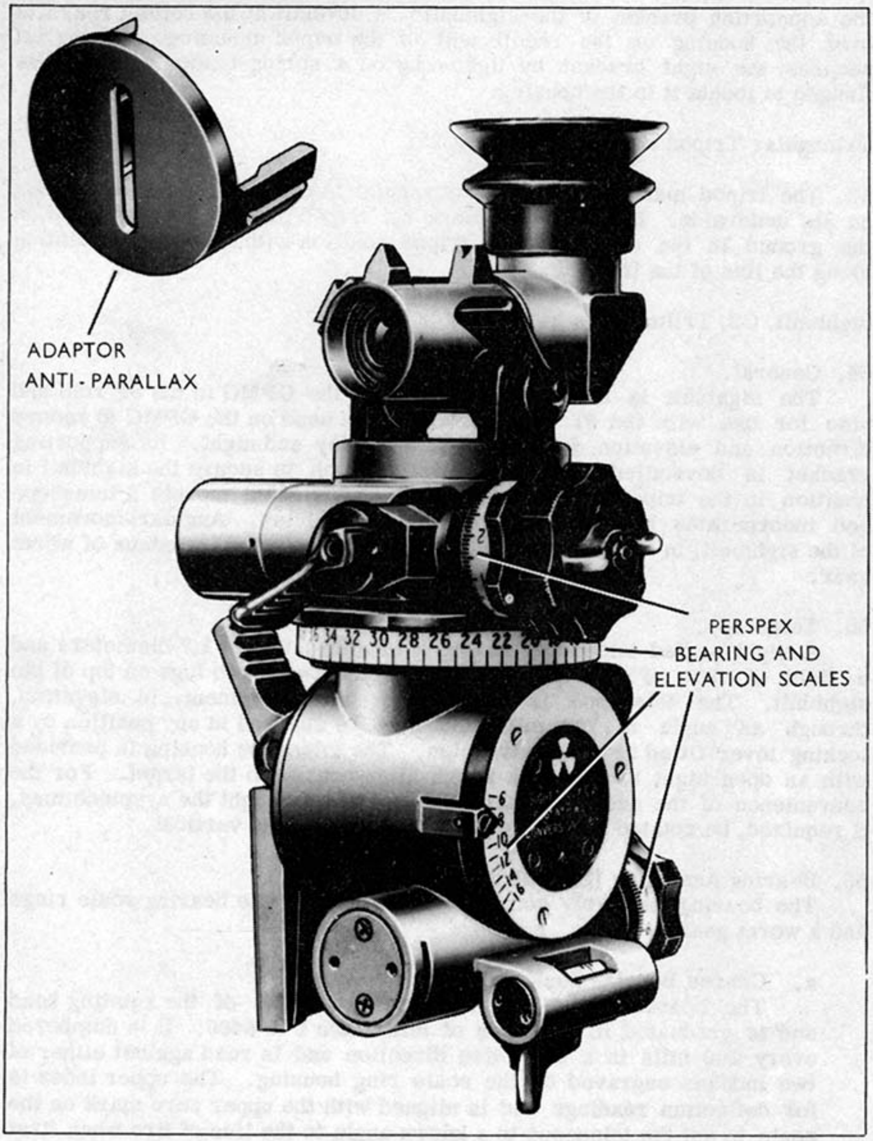


Fig 34 Sightunit, C2, Trilux & Adaptor, Anti-Parallax

clamped to the rotating head by means of a bearing scale ring clamp; slackening of the clamp permits the scale ring to be rotated independently of the rotating head.

b. Fine Bearing Scale Ring.

The fine scale ring is assembled on the worm spindle. It carries a slipping scale which is secured to the ring by three screws. The scale is graduated in single mils from 0 to 100 and numbered every 10 mils. It is read against either one of two indexes. The outer index is for deflection readings and is aligned with zero on the scale, after first setting zero deflection on the coarse scale ring; the inner index is for bearing readings and is used in conjunction with the coarse bearing index to lay off angles of bearing to the nearest mil. During one revolution of the fine scale ring the coarse scale ring is rotated through an angle of 100 mils. Adjustment of the fine scale ring is provided for by a wing nut assembled in the centre of the bearing knob of the worm gear.

c. Worm Gear.

The worm gear comprises a worm, worm wheel, worm spindle fitted with a fluted knob and a spring-loaded quick release arrangement. The fine bearing scale is interposed between the knob and rotating head. The worm can be disengaged from the worm wheel, for free and rapid rotation of the rotating head, by pressing forward the bearing knob. The quick release arrangement is fitted with a locking lever which, when tightened, prevents disengagement of the worm from the worm wheel. Tightening the lever does not prevent operation of the worm gear although a slightly increased effort is required to rotate the bearing knob. The locking lever is shaped to provide a purchase when applying pressure to the bearing knob.

57. Elevation Assembly.

An elevation coarse scale plate and a fine scale ring are fitted to the lower portion of the sightunit. A worm gear enables the complete sightunit to be rotated in the vertical plane:

a. Coarse Elevation Scale Plate.

The coarse scale is engraved on the outer face of a circular plate secured to the sightunit supporting bracket. It is graduated in hundreds of mils from 600 to 1600 and numbered every 200 mils. The scale is read against a fixed index engraved on the sightunit body, which indicates the angle of elevation to the nearest 100 mils.

b. Fine Elevation Scale Ring.

The fine scale ring is a slipping scale secured to the elevation knob of the worm gear by three screws. It is engraved in single

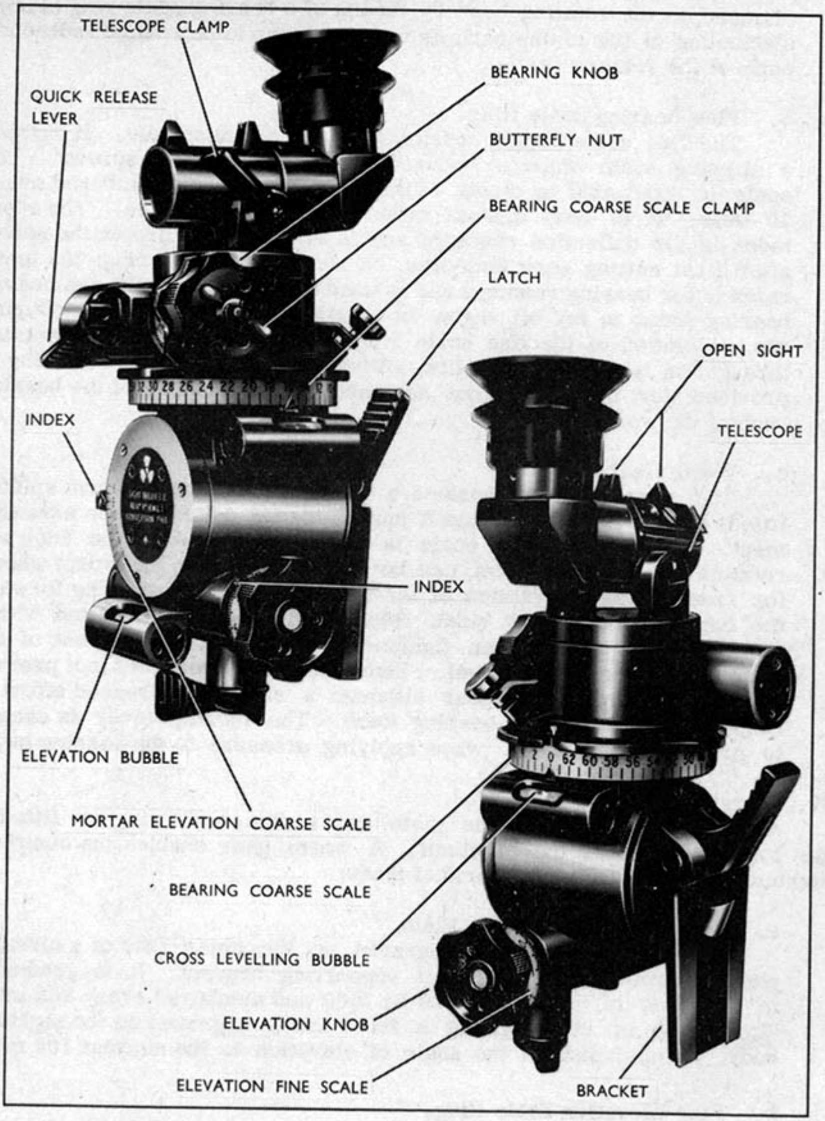


Fig 35 Sightunit, C2, Trilux

mils from 0 to 100 and numbered every 10 mils. The scale is read against an index engraved on the worm housing and is used in conjunction with the coarse scale to indicate angles of elevation to the nearest mil. For setting purposes the slipping scale may be rotated independently of the elevation knob by slackening three screws in the outer face of the knob. During one revolution of the fine scale the coarse scale ring is rotated through an angle of 100 mils.

c. Worm Gear.

The worm gear is of similar construction to that of the bearing gear except that it does not incorporate a quick release arrangement. A locking lever under the worm housing, when tightened, operates in the same way as the bearing scale locking lever, see para 56c.

58. Elevation and Cross-Levelling Bubbles.

These are mounted below the elevation and bearing coarse scales, respectively. Both bubbles are set to within an accuracy of 1.5 mils.

59. Sight Illumination.

The sightunit is fitted with opal perspex bearing and elevation scales with graduations marked in black. Lighting is by Trilux light sources which are cemented into the sight housing in close proximity to the scale they are illuminating. The telescope graticule, cross-levelling and elevation bubbles are also Trilux illuminated. The light sources are not accessible to the user.

Adaptor, Objective, Anti-Parallax (Fig 34)

60. The adaptor is designed to fit over the object lens of the sightunit to restrict parallax. Of steel construction, slotted centrally, it is retained on the sightunit by means of spring segments formed on its rear face.

Light, Marker, Trilux (Fig 36)

61. The light marker comprises lampunit trilux green and bracket:

a. Lampunit.

It consists of a bakelite cylinder fitted internally with two rubber cushions between which the Trilux gas lamp is located and protected. The cushions are held in position by a perspex washer over which is fitted a dome shaped lens to concentrate the light. It is a sealed unit and must not be stripped or tampered with by the user.

b. Bracket.

A bracket with clamp, for attachment to the aiming post or tripod, is fitted to the lampunit.

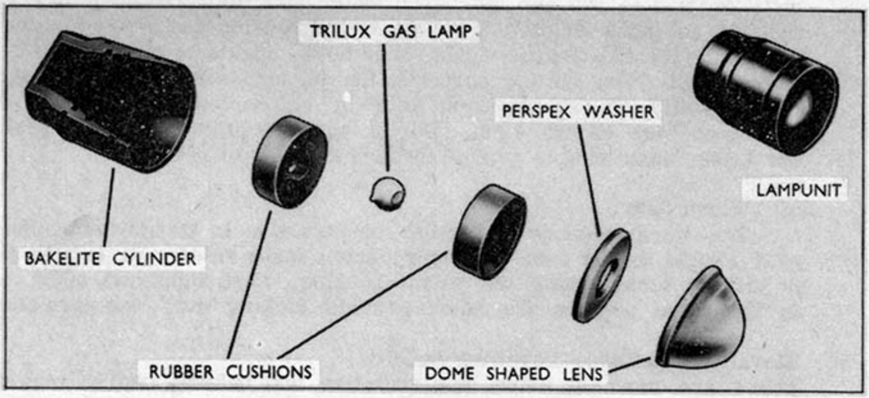


Fig 36 Light, Marker, Trilux

62. The trilux marker may also be used as a direction or location sign and when unmasked can be seen at a distance of 200 metres.

Mask Lampunit (Fig 37)

63. The mask is of steel construction with a slotted hinged cover and clips on to the front of the trilux marker. To assist the user to aim during periods of bright daylight a broad vertical white line is painted around the slot on the face of the hinged cover.

Trilux Lighting

64. General.

The trilux lamps used in this equipment are filled with TRITIUM GAS. The trilux marker contains approximately 2 1/2 curies and the C2 sight-unit approximately 2 1/4 curies of radio activity. It is predicted that these lamps will deteriorate by half their original brightness in 10 years but are likely to have a further usable life.

65. Safety.

Trilux lamps have no significant level of external radiation and no hazard can arise unless a lamp is broken. For any single lamp an upper level of radiation is imposed, and an upper limit of radiation is adopted for the total radioactive content of all lamps incorporated in a single equipment. The design of any equipment incorporating a trilux lamp is such that protection is afforded to the user. Breakage of the lamp and

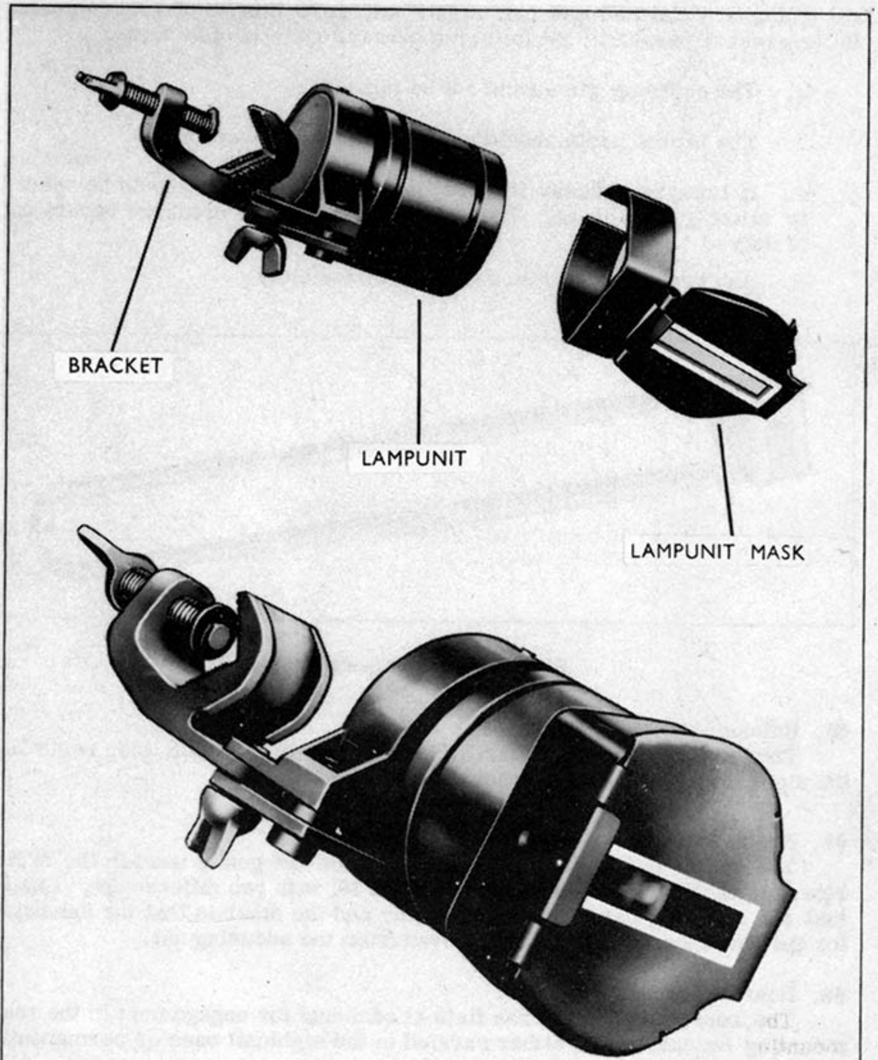


Fig 37 Trilux Marker and Lampunit Mask

the release of tritium gas can result only from misuse of the equipment. In the event of breakage, the following precautions should be taken:

a. The escaping gas should not be inhaled.

b. The broken parts should not be handled with bare hands.

c. If breakage occurs indoors, doors and windows should be opened to allow gas to clear. There is little danger if breakage occurs out of doors.

d. Any breakage must be reported immediately.

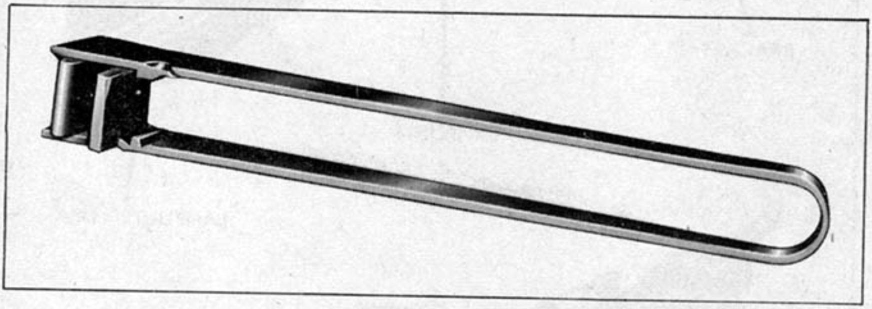


Fig 38 Sight Releasing Tool

66. Releasing Tool Sight (Fig 38).

This tool is provided to facilitate operation of the latch when removing the sightunit from the sight bracket.

67. Recoil Buffer (Fig 39).

The recoil buffer replaces the butt when the gun is used in the SFMG role. It is the buffer assembly, see para 39, with two differences. One is that the securing catch lever is shorter and the other is that the extension for the butt securing screw is removed from the securing nut.

68. Rear Mounting Pin.

The rear mounting pin has flats at each end for engagement in the rear mounting bracket and is either carried in the sightunit case or permanently fitted to the gun.

69. Pegs Positioning Weapon.

These are used to mark the site of each tripod shoe before removing the tripod from its location.

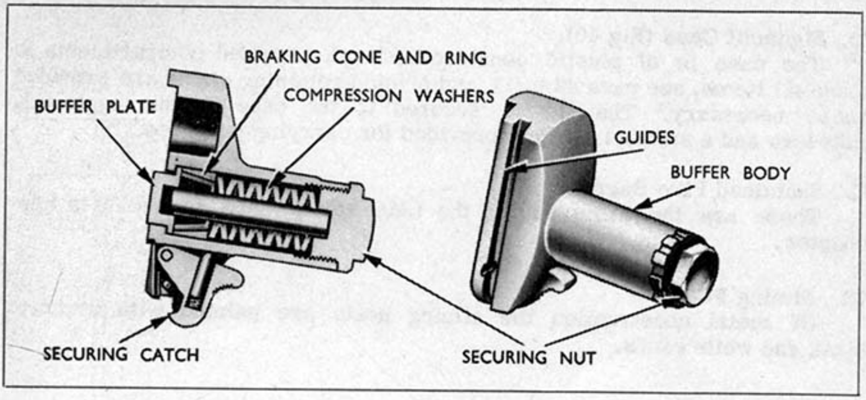


Fig 39 Recoil Buffer

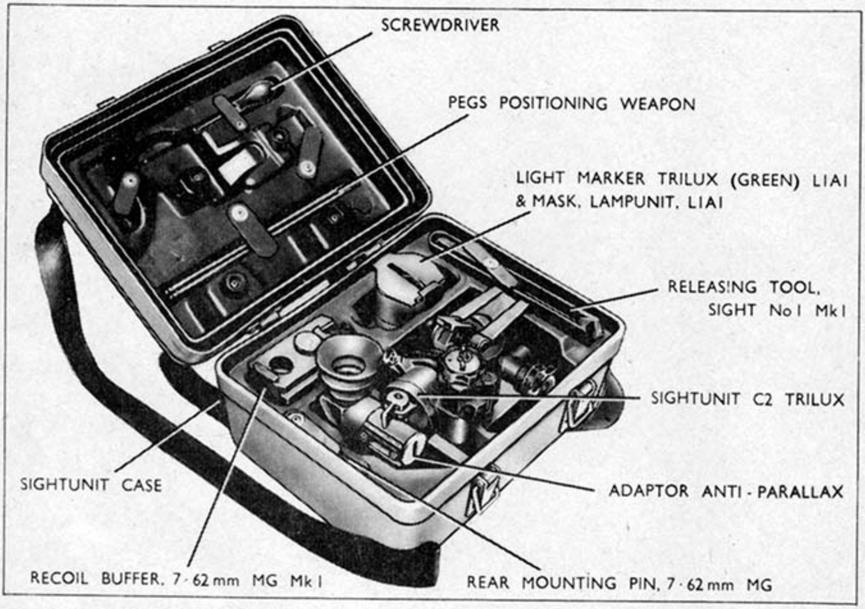

SCREWDRIVER
PEGS POSITIONING WEAPON
LIGHT MARKER TRILUX (GREEN) L1A1 & MASK, LAMPUNIT, L1A1
RELEASING TOOL, SIGHT No I Mk I
SIGHTUNIT C2 TRILUX
SIGHTUNIT CASE
ADAPTOR ANTI - PARALLAX
RECOIL BUFFER, 7·62 mm MG Mk I
REAR MOUNTING PIN, 7·62 mm MG

Fig 40 Sight, C2, 7.62 mm, MG, Trilux Cased L2A1

70. Sightunit Case (Fig 40).

The case is of plastic construction with moulded compartments to house all items, see para 42 b.(1), and pivoted retaining strips are provided where necessary. The lid is secured to the case by four toggle clip fasteners and a suitable strap is provided for carrying purposes.

71. Sustained Fire Barrels.

These are the same as for the LMG role ; see Section 3 of this chapter.

72. Aiming Posts.

Of metal construction the aiming posts are painted with alternate black and white bands.

CHAPTER 2

OPERATION

SECTION 1 - LOADING AND UNLOADING

73. Loading (Figs 41 & 42)

Ensure that the piston assembly is in the fully forward position and that the safety catch is set at "F". Raise the cover and place the ammunition belt on the feed tray with the leading round against the cartridge stop. Hold the belt in that position and close the cover.

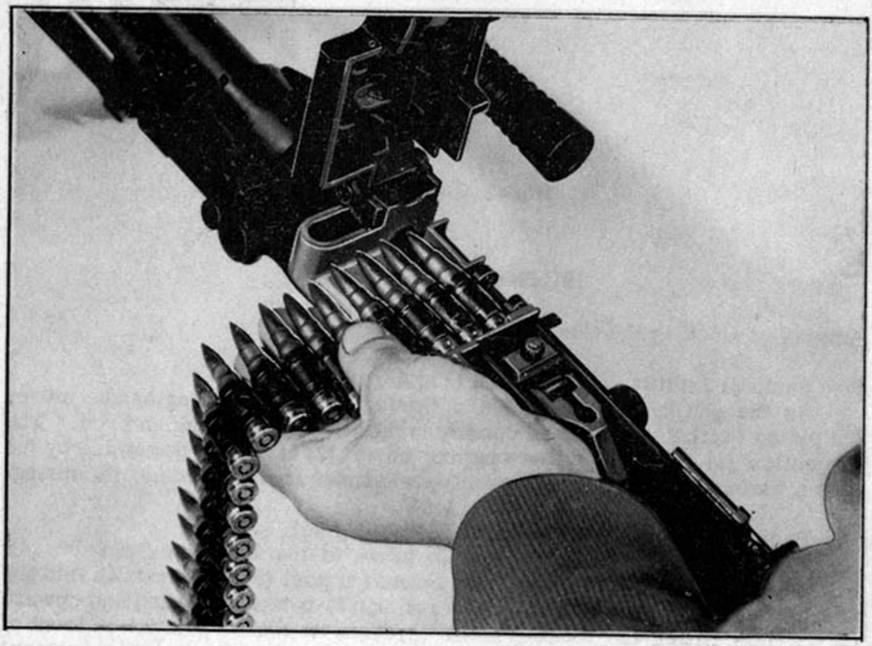


Fig 41 Loading

74. Unloading.

Cock the gun. Hold the belt near the feed tray with the left hand, raise the cover and remove the belt. Examine the chamber and feed tray to ensure that they are clear. Close the cover and press the trigger. Close the ejection opening cover.

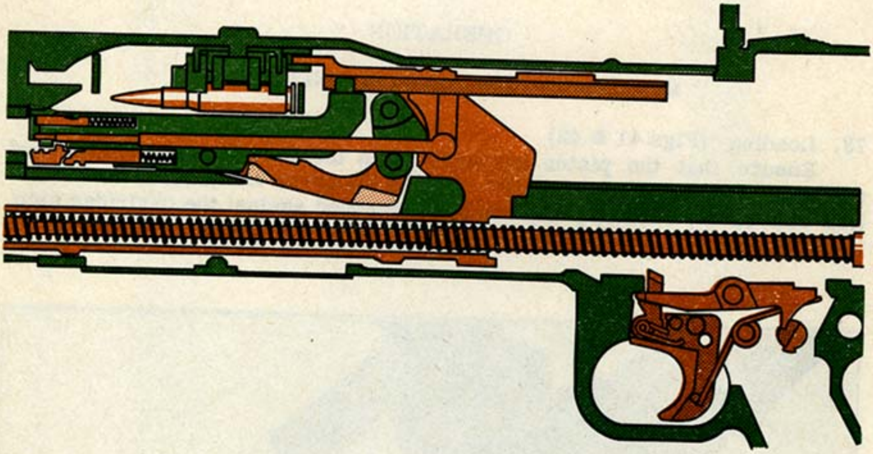


Fig 42 Gun Loaded

SECTION 2 - MECHANISM

Actions on Cocking the Gun (Figs 43 to 45)

75. Backward Action of the Piston (Fig 43).

As the gun is cocked, a stud on the inside of the cocking handle moves the piston extension rearward compressing the return spring and rod. The projection (1) on the ejection opening cover (2) is forced downward by the piston extension (3) and the cover opens under the influence of its spring.

76. Backward Action of the Breech Block (Fig 43).

Immediately the piston begins to move to the rear, the firing pin (4), held by its rear end in the piston extension post (5) is withdrawn into the breech block (6). The locking lever link (7) rotates forward and upward on its axis, lifting the locking lever (8) from its locked position in front of the locking shoulder (9) thus unlocking the breech. Continued movement of the piston causes the locking lever link to withdraw the breech block to the rear, locating the actuating roller (10) in the channel of the feed arm (11).

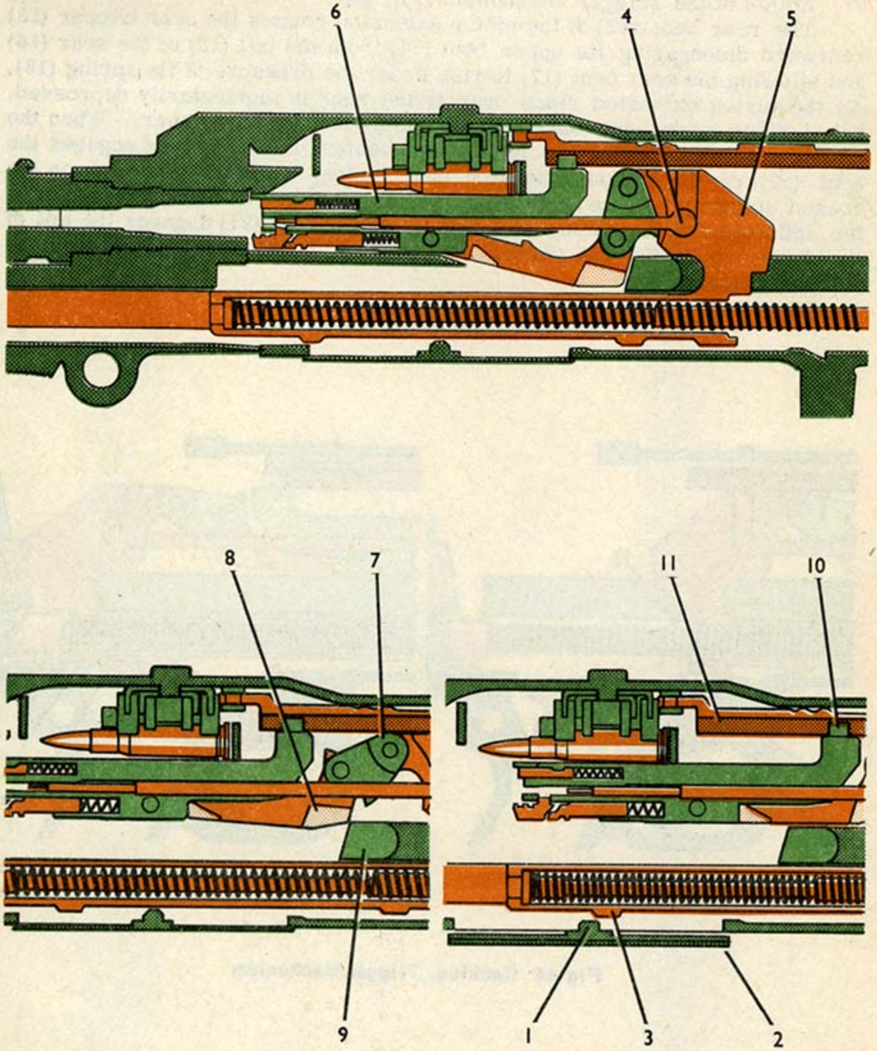


Fig 43 Cocking, Piston and Breech Block

77. Action of the Trigger Mechanism (Fig 44).

The rear bent (12) of the piston extension rotates the sear tripper (13) rearward disengaging its upper bent (14) from the tail (15) of the sear (16) and allowing the sear bent (17) to rise under the pressure of its spring (18). As the piston extension rides over it the sear is momentarily depressed, but it rises again when the piston assembly is fully to the rear. When the piston assembly begins its forward movement the sear bent engages the bent (19) of the piston extension thus holding the piston assembly in the cocked position. At the same time, the sear tripper rotates forward under the influence of its spring (20) and its lower bent (21) engages the tail of the sear. With the gun cocked, the cocking handle must be placed in its forward position.

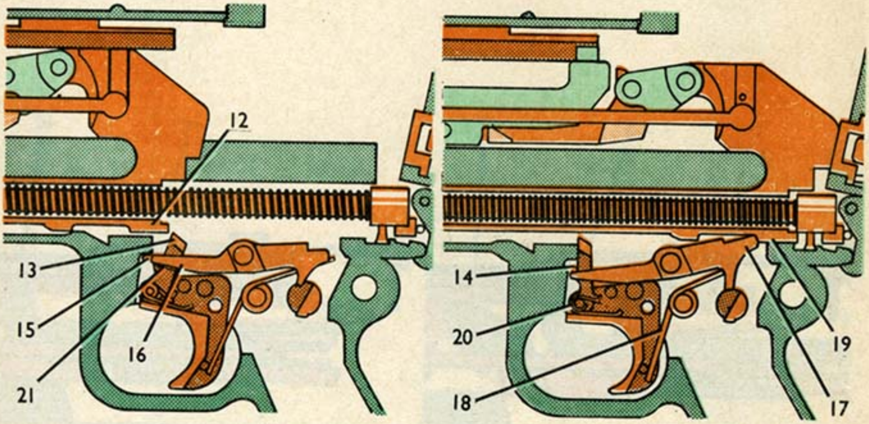


Fig 44 Cocking, Trigger Mechanism

78. Feed Mechanism (cocked), (Fig 45).

When the gun is loaded and cocked the leading round of the belt is positioned in the feed way and held by the cartridge stops (22) and the inner pawl (23); the next round is held by the outer pawls (24).

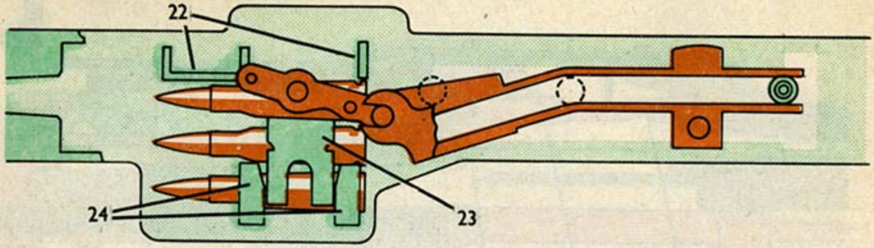


Fig 45 Feed Mechanism (cocked)

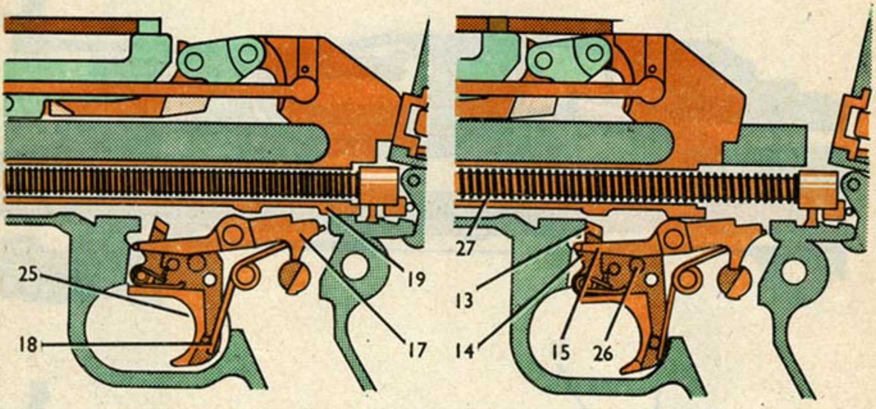


Fig 46 Trigger pressed

Forward Action (Figs 46 to 49)

79. Trigger Mechanism (Fig 46).

On pressing the trigger (25) the sear and trigger spring (18) is compressed. The sear tripper (13) is pulled down and the sear actuating pin (26) pushes the tail (15) of the sear upward until it engages the upper bent (14) of the sear tripper. Simultaneously, the sear bent (17) is depressed disengaging it from the bent (19) of the piston extension and allowing the return spring (27) to force the piston assembly forward.

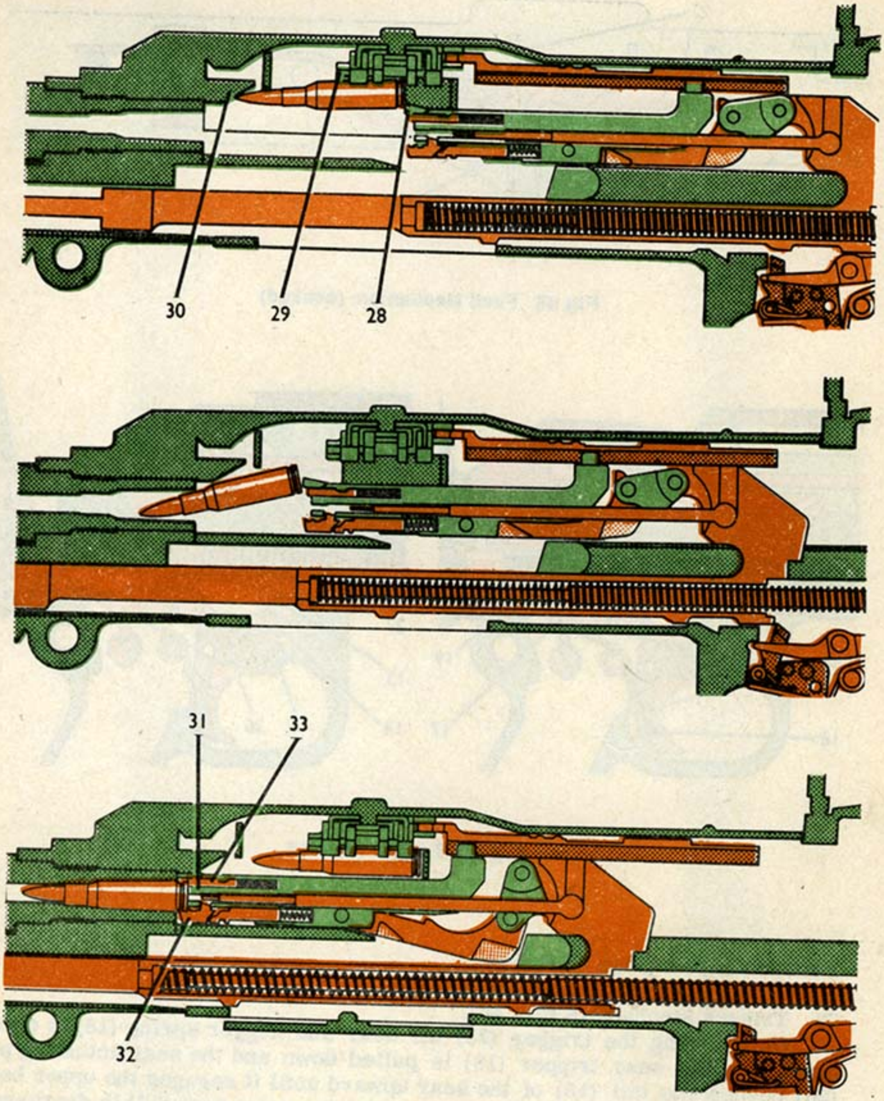


Fig 47 Feeding the Round

80. Feeding the Round (Fig 47).

The round is forced out of the belt by the feed horns (28) and guided into the chamber by the cartridge guide pawl (29) and the bullet guide (30). As the round is positioned on the cartridge seating (31) its rim is engaged by the extractor (32) and its base depresses the ejector (33).

81. Feed Mechanism (Fig 48).

When the piston assembly has moved forward approximately 76.2 mm (three inches) the actuating roller (10) starts to pivot the feed arm (11). Continued movement causes the forward end of the feed arm to be forced fully to the right and at the same time the inner pawl (23) moves to the left and engages behind the next round in the belt. Simultaneously the outer pawls (24) carry that round from left to right to the "half feed" position; at this stage both the inner and outer pawls are engaged behind the one round.

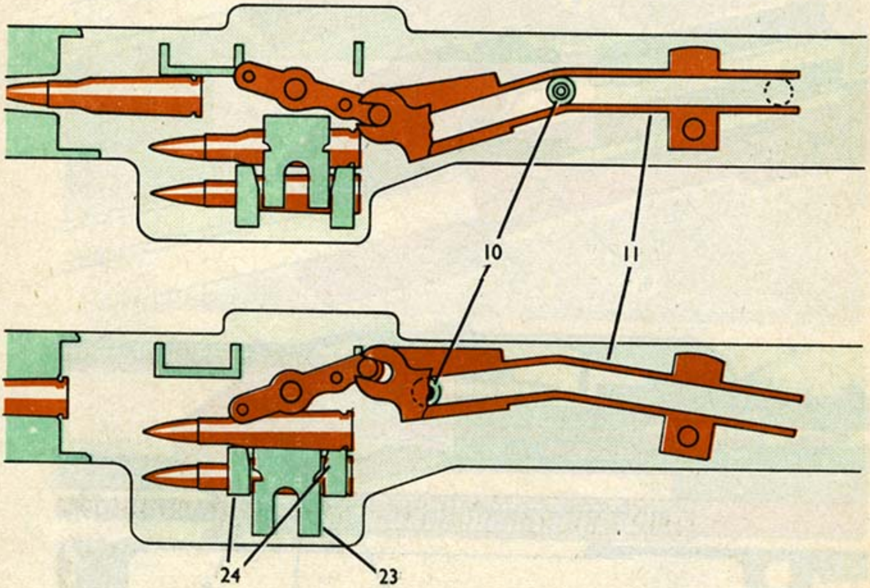


Fig 48 Feed Mechanism action

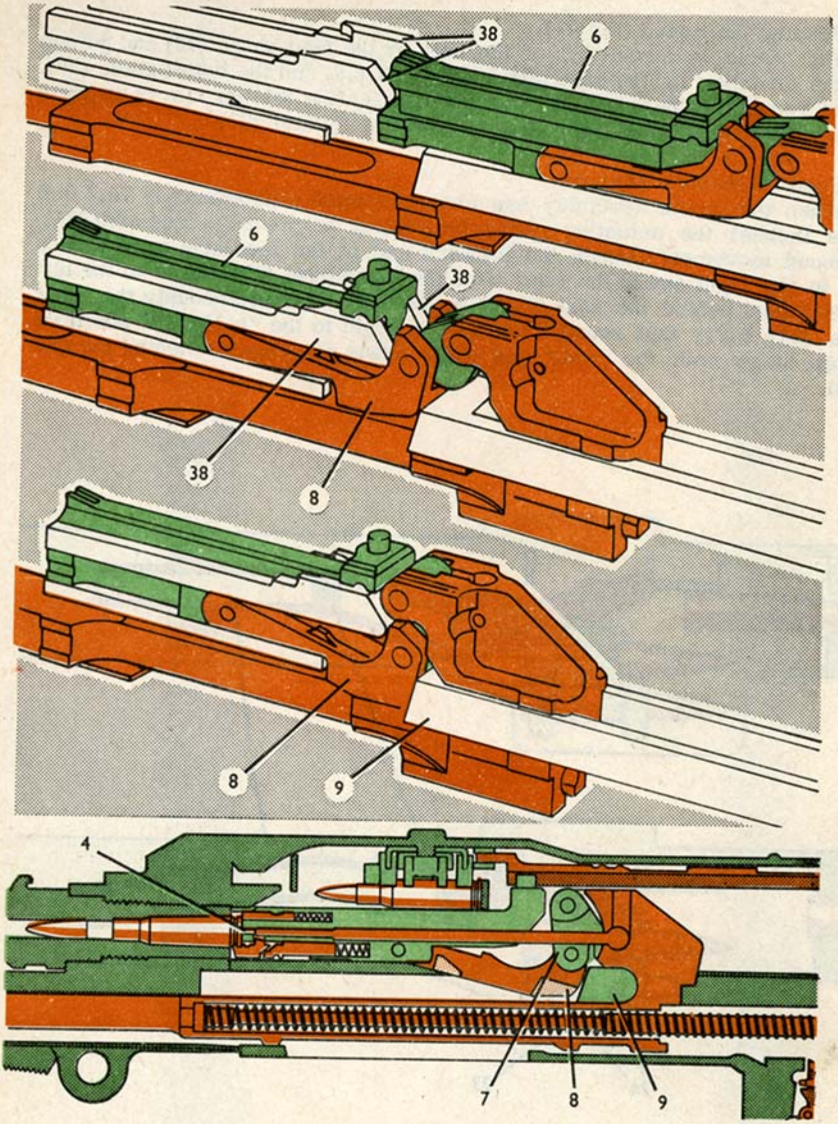


Fig 49 Breech Locking and Firing the Round

82. Breech Locking and Firing the Round (Fig 49).

As the round is fed into the chamber the locking lever (8) contacts the locking cams (38) and slows down the forward movement of the breech block (6). This contact and the continued forward movement of the piston causes the locking lever link (7) to rotate downward and backward, thus forcing the locking lever down to its fullest extent in front of the locking shoulder (9). The breech is thus mechanically locked with the round fully home. The final forward movement of the piston drives the firing pin (4) through the firing pin hole on to the cartridge cap and fires the round. The front face of the piston extension contacts the stop face of the body.

Backward Action (Figs 50 to 53)

83. Breech Unlocking (Fig 50).

When the round is fired some of the gases pass through the gas vent (34) into the gas cylinder (35) and strikes the piston head (36) driving the

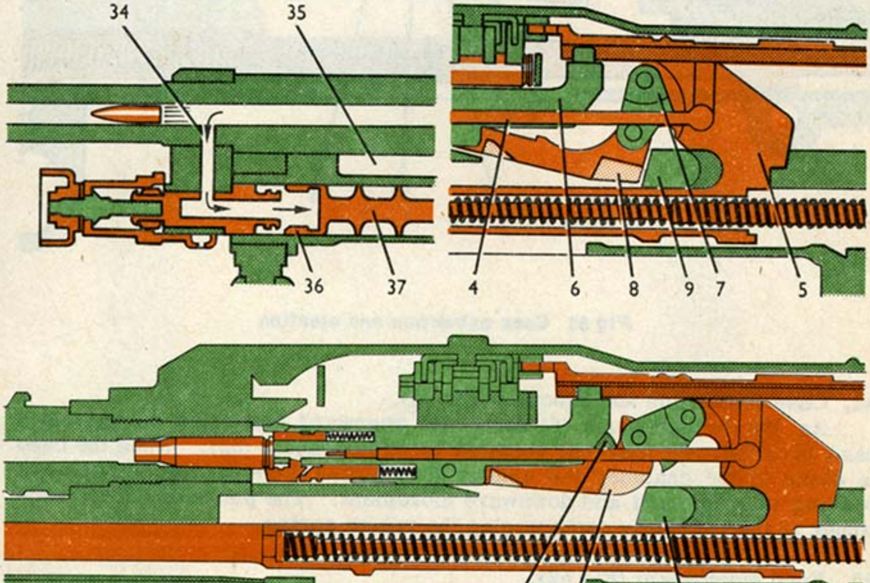


Fig 50 Breech Unlocking

piston (37) to the rear. Immediately the piston begins to move the firing pin (4), held by the piston extension post (5), is withdrawn into the breech block (6). During the next 16 mm (5/8 inch) of movement the breech is fully locked whilst the bullet travels the remaining distance from the gas vent to the muzzle. Continued rearward movement of the piston causes the locking lever link (7) to rotate forward and upward and lift the locking lever (8) out of engagement with the locking shoulder (9) thus unlocking the breech. As the curved faces of the locking lever come into contact with the locking cams (38) they exert a powerful backward leverage on the breech block, thus causing primary extraction.

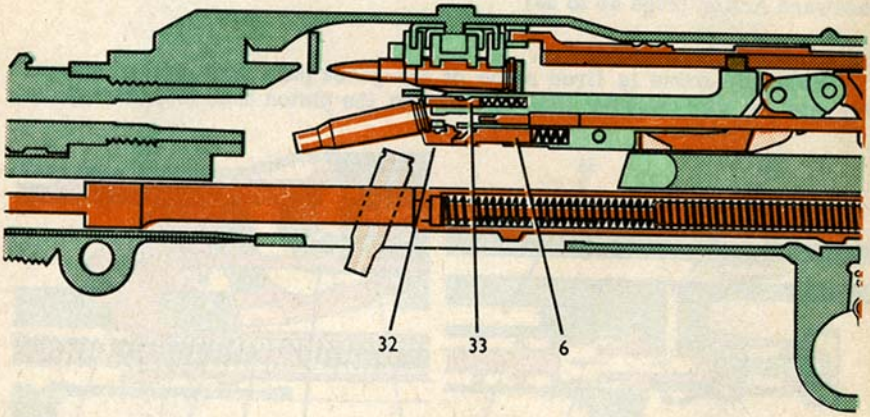


Fig 51 Case extraction and ejection

84. Case Extraction and Ejection (Fig 51).

As the breech block (6) starts its rearward movement the cartridge case is withdrawn from the chamber by the extractor (32). When the case is clear of the chamber the ejector (33) forces it out through the ejection opening in a forward and downward movement. The piston assembly continues to the rear fully compressing the return spring.

85. Feed Mechanism (Fig 52).

During the first 50 mm (two inches) of rearward travel of the breech block the feed actuating roller (10) operates the forward end of the feed arm (11) from right to left. This causes the inner pawl (23) to move to the right and carry the next round from the "half feed" position to the "fully fed" position. Simultaneously the outer pawls (24) move to the left and engage behind the next round of the belt.

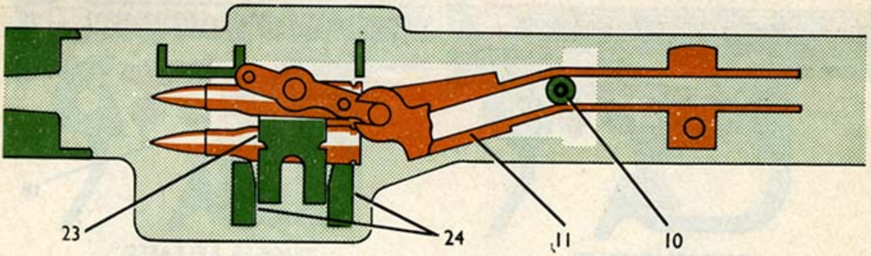


Fig 52 Feed Mechanism action

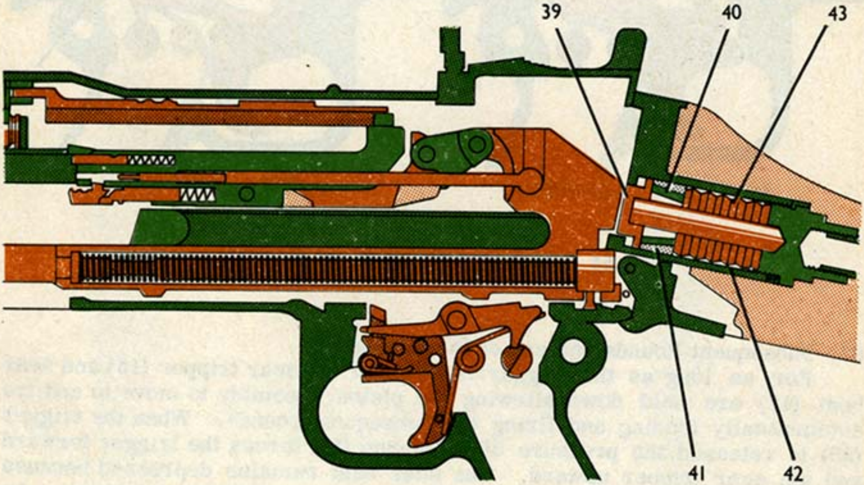
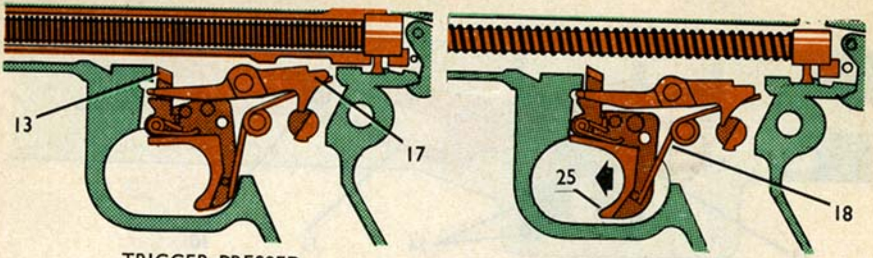


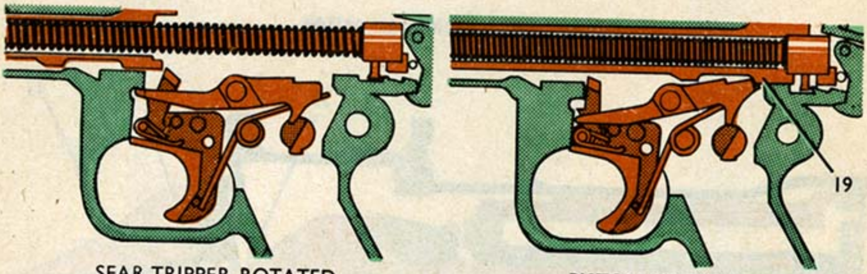
Fig 53 Buffer action

86. Action of the Recoil Buffer (Fig 53).

Towards the end of its rearward travel the piston assembly contacts the recoil buffer. This impact causes the buffer plate (39) to recoil and the movement is communicated to the buffer cone (40) which is forced into the braking ring (41) causing it to expand slightly and contact the walls of the tube (42). This has a braking effect which, assisted by the spring compression washers (43), absorbs most of the shock of recoil. The recoil buffer assists in driving the piston assembly forward.



TRIGGER PRESSED TRIGGER RELEASED



SEAR TRIPPER ROTATED PISTON COCKED

Fig 54 Subsequent shots and end of burst

87. Subsequent Rounds and end of Burst (Fig 54).

For as long as the trigger is pressed the sear tripper (13) and sear bent (17) are held down allowing the piston assembly to move to and fro automatically feeding and firing the subsequent rounds. When the trigger (25) is released the pressure of its spring (18) forces the trigger forward and the sear tripper upward. The sear bent remains depressed because the tail of the sear is engaged on the upper bent of the sear tripper. As the piston assembly is forced rearward, the piston extension rotates the sear tripper rearward disengaging it from the tail of the sear and causing the sear bent to rise and engage the bent (19) of the piston extension. The piston assembly is thus held in the cocked position.

88. CAUTION:

The machine gun is not designed to fire single shots. It may sometimes be necessary however, to fire single shots and if this is the case it is essential that the single round is first placed into a link. If a round is placed in the gun without a link the rim of the cartridge case will foul the link stripping face during feed and cause damage to the round and possibly, to the feed mechanism.

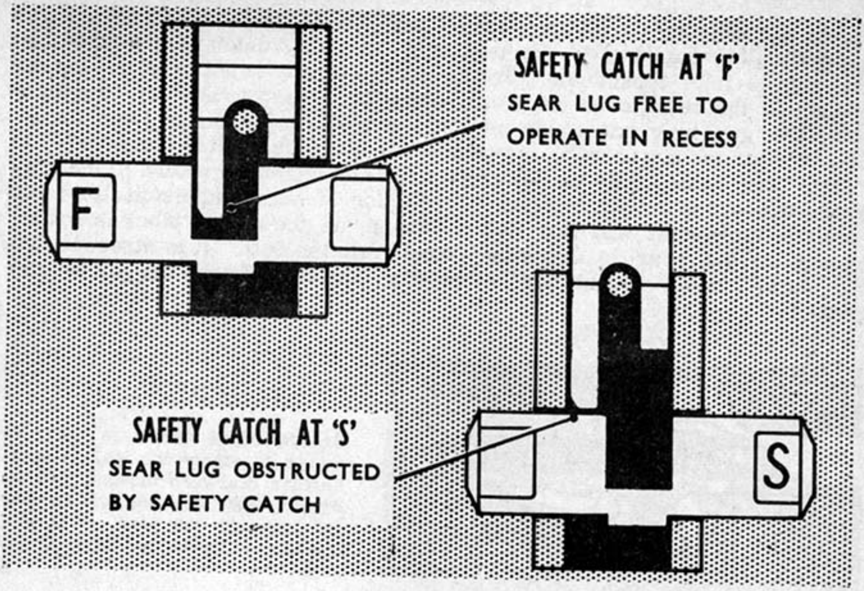

SAFETY CATCH AT 'F'
SEAR LUG FREE TO OPERATE IN RECESS
F
SAFETY CATCH AT 'S'
SEAR LUG OBSTRUCTED BY SAFETY CATCH
S

Fig 55 Action of Safety Catch

Action of the Safety Catch (Fig 55)

89. When the safety catch is at "F" (Fire) its recess is directly under the sear lug thus giving clearance for the operation of the sear.

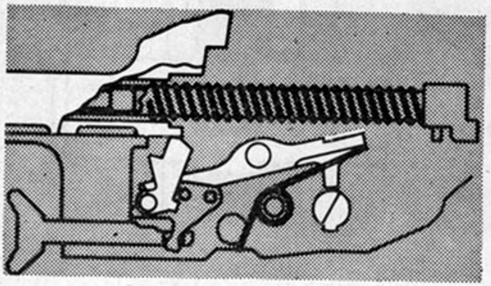
90. When the safety catch is set at "S" (Safe) its recess is to the right side of the sear lug. Therefore with no clearance the sear cannot operate.

91. When the sear is in the lowered position the safety catch cannot be moved because the sear lug is in the recess of the safety catch.

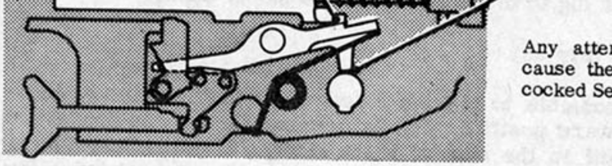
Misuse of Safety Catch (Fig 56)

92. It should not be possible to put the safety catch to "S" (Safe) with the mechanism in the forward position; this is because the sear is depressed and its lug is engaged in the recess of the safety catch, thus preventing lateral movement of the safety catch. It is possible however, to bring the mechanism to the rear far enough to trip the sear, without fully cocking, and return the mechanism to the forward position and apply the safety

catch; the tripping of the sear occurs when the mechanism has been drawn approximately half-way to the rear. If the safety catch is applied before the gun is fully cocked the working parts are prevented from moving far enough to the rear to be correctly engaged by the sear and any attempt to cock the gun may cause the piston extension to jam on the locked sear Should such a jam occur, movement of the safety catch from "Safe" to "Fire" will release the working parts and allow them to return to the fully forward position. With correct combination of sear and piston fitted this forward movement will not feed a round, as the breech block is not far enough to the rear to collect a round from the belt. It is stressed that the safety catch should not be applied unless and until the gun is fully cocked.



Breech Block moved to rear far enough to engage the Sear Tripper. Further rearward movement of the Breech Block trips the Sear Tripper and releases the Sear. It is now possible to move the Safety Catch to 'S'



Any attempt to cock the gun will cause the Breech Block to foul the cocked Sear.

Fig 56 Misuse of Safety Catch

SECTION 3 - STOPPAGES

Functional

93. Prevention of Stoppages.

Stoppages may be caused by incorrect handling, lack of servicing, incorrectly filled belts and adverse or abnormal conditions. Correct servicing and attention to the following points before and during firing will do much to keep their occurrence down to a minimum:

a. Cocking and Actuating the Piston Assembly.

The mechanism should cock and close freely. Always pull the cocking handle fully to the rear, do not pull partly to the rear and then release, see Paras 89 to 91. When the piston assembly is forward the safety catch should be fixed and immovable at the "F" (Fire) position, and when the piston assembly is to the rear the safety catch should be free to be set at either the "S" (Safe) or "F" (Fire) position.

b. Feed Mechanism.

With the feed mechanism housing in the raised position the feed mechanism should move freely when the rear end of the feed arm is pressed sideways by the hand. The pawls should operate freely against their springs when depressed and released by hand.

c. Lubrication.

Sufficient lubrication must be maintained where applicable, see Chapter 3, Section 2, para 125.

d. Ammunition Belts.

Ammunition belts must be checked for misplaced rounds or distorted links.

e. Ejection.

Ensure that the ejection opening is clear of obstruction to obviate the danger of fired cases bouncing back into the gun.

f. Any gun which is found to be firing sluggishly, when set at the normal gas setting, should have a "rate of fire test" carried out by the Unit Armourer and the trouble rectified.

94. Clearing of Stoppages.

It is emphasized that the user is to consult IT Vol 1, Pam 6A, Army Code No 70178 for the drills to be used for the clearing of stoppages. With all stoppages except "runaway gun" the Immediate Action (IA) is, cock the gun and lower the butt. Open the cover, clear the feed tray and close the cover again as quickly as possible. Raise the butt, align the sights and press the trigger. Lower the butt, reload, raise the butt, cock the gun and continue firing. If it is not possible to re-cock, always hold the cocking handle firmly to prevent the mechanism going forward whilst investigating and clearing a fault.

95. Causes and Remedies.

Most stoppages can be cured by IA but if, after applying IA, the gun still fails to fire carry out the applicable remedy. Continued recurrence of stoppages indicate broken parts or very bad fouling. Unload the gun and strip it. Replace broken or damaged parts, or if the gun is fouled clean it. Re-assemble the gun, load and continue firing. Any live round, whether damaged or not, which is involved in a stoppage, or used as a tool, is to be removed from use. No attempt is to be made to fire such rounds.

Stoppages	Probable Causes	Remedies
1. Fails to feed, or runaway gun.	Insufficient gas.	Stop runaway gun by twisting the belt at point of entry. Adjust gas regulator to give more gas.
2. Failure to feed round into chamber.	a. Distorted link.	a. Remove link.
	b. Incorrect positioning of round in belt.	b. Ensure that ammunition is correctly positioned.
	c. Component of feed mechanism broken.	c. Replace broken component.
	d. Weak or broken return spring.	d. Replace return spring.
3. Failure to extract fired case.	Broken extractor or spring.	Replace extractor or spring.
4. Failure to eject fired case.	Distorted ejector or weak spring.	ACTION BY REME.
5. Misfire.	a. Defective round.	a. Apply IA.
	b. Broken or damaged firing pin.	b. Replace firing pin.

Stoppages	Probable Causes	Remedies
6. Hard extraction. Fired case may be jammed in chamber.	a. Insufficient gas.	a. Adjust gas regulator to give more gas.
	b. Dirty round or dirty chamber.	b. Clear fired case by IA. Clean the chamber and ensure that the ammunition is clean.
7. Sluggish action of mechanism.	Fouling of mechanism by prolonged firing or by sand, mud etc.	Clean and lubricate the weapon thoroughly.
8. Failure of mechanism to stay to the rear when the trigger is released.	a. Incomplete recoil possibly due to obstruction.	a. Inspect and remove obstruction.
	b. Insufficient recoil.	b. Adjust gas regulator to give more gas.
	c. The sear or sear spring may be damaged.	c. ACTION BY REME.
9. No ammunition.	a. Ammunition belt may be expended.	a. Load with fresh belt.
	b. Belt may be incorrectly positioned in the feed tray.	b. Position the belt correctly.
10. Separated case.	Forward part of ruptured case is left in chamber and the following round cannot fully enter.	Apply IA and this may remove the round with the ruptured case attached to it. If not, insert ruptured cartridge extractor into the chamber. Press the trigger and cock the gun. This will remove the ruptured case.

Mechanical

96. It is anticipated that broken or defective parts will be a rarity, but will sometimes occur. The detection of mechanical breakdown comes largely with experience and when investigating the causes, visual examination should disclose to the firer the faulty component which must be exchanged. It is the responsibility of the Armourer to replace broken parts but the user may change the firing pin, the extractor and the extractor spring.

SECTION 4 -
MOUNTING AND DISMOUNTING GUN AND TRIPOD

Mounting the Gun

97. Erecting the Tripod.

Withdraw the tripod from the holdall and with the tripod legs to the rear straddle the tripod. Grasp the front bar of the cradle and lift the tripod so that the legs are vertical. Grip the cradle between the thighs and unlock the short leg lock levers. Lower the tripod to the ground and at the same time swing the short legs forward until they are in the low mount position; lock the short leg lock levers. Ensure that the rear or long leg is also in the low mount position. Release the cradle locking lever and lift the rear of the cradle upwards until horizontal. Secure the locking lever and pull out the front mounting pin. At all times the direction dial on the head of the tripod must be level. The long leg of the tripod should be to the rear, except when the tripod is mounted on a forward slope, or on the side of a bank, when the long leg should be pointing down the slope. Fit the tripod dial sight bracket by unscrewing the wing nut and sliding the bracket on from the rear. Ensure that it is fully forward and tighten the wing nut, (Fig 25).

98. Attaching the Gun.

Replace the butt with the recoil buffer. Close the ejection opening cover and fit the rear mounting pin to the gun. Lift the gun and, ensuring that the flat surfaces of the rear mounting pin are correctly positioned, push the gun fully forward and insert the front mounting pin; fold and lock the bipod legs.

99. Fitting the Dial Sight.

Remove the dial sight from its case and fit the sight by inserting the sight bracket into the tripod bracket; press down on the sight latch and push the sight fully home.

Dismounting the Gun

100. Removing the Dial Sight.

To remove the dial sight press down on the sight latch, lift the sight upward and remove; a sight releasing tool is provided to facilitate operation of the latch. Replace the sight in its case.

101. Removing the Gun.

Ensure that the gun is unloaded. Release the bipod legs, ensure that the ejection opening cover is closed and pull out the front mounting pin. Raise the front of the gun and slide the gun off the tripod to the rear. If the gun is to be fired in the light role, replace the butt and remove the rear mounting pin. Return the recoil buffer and rear mounting pin to their containers.

102. Dismantling the Tripod.

Remove the tripod dial sight bracket by unscrewing the wing nut, and slide off. Push in the front mounting pin and ensure that the long leg is in the low mount position. Release the cradle lock lever, depress the rear of the cradle and lock above the long leg. Straddle the tripod and grasp the front bar of the cradle. Unlock the short leg lock levers and raise the tripod to the vertical position allowing the legs to drop. Grip the cradle between the knees and, ensuring that both short legs are in line with the long leg, clamp firmly. If the tripod is not immediately required for further use return it to its holdall.

SECTION 5 - USE OF THE C2 SIGHTUNIT

103. To Zero the Bearing Scales:

a. Coarse Scale.

Release the scale clamp, rotate the scale until the zero pointer is coincident with the deflection index and clamp the scale. Rotate the bearing mechanism until the zero graduation is coincident with the bearing index.

b. Fine Scale.

Release the butterfly nut on the bearing knob. Rotate the scale until the zero pointer is coincident with the deflection index and tighten the butterfly nut. Rotate the bearing knob until the zero graduation is coincident with the bearing index. It may be found necessary to adjust the deflection index. To adjust loosen the butterfly nut and rotate it so that the hole in it exposes one of the three screws in the knob. Loosen the screw and repeat until all three screws are loosened. Locate a tool in the hole in the index ring and, holding all else against rotation, move the index as required. Tighten the screws and the butterfly nut.

104. To Zero the Elevation Scales.

Rotate the elevation knob until the zero graduation of the coarse scale is coincident with the index. If the zero graduation of the fine scale is not coincident with its index, loosen the three screws in the outer face of the knob and rotate the fine scale until it is coincident with its index. Tighten the screws.

105. To Set a Direction Angle.

By means of the quick release mechanism, rotate the rotating head to the nearest 100 mils on the coarse scale. Rotate the fine scale to the required reading.

106. To Set an Elevation Angle.

Rotate the elevation knob until the required angle is set on the coarse and fine scales.

CHAPTER 3

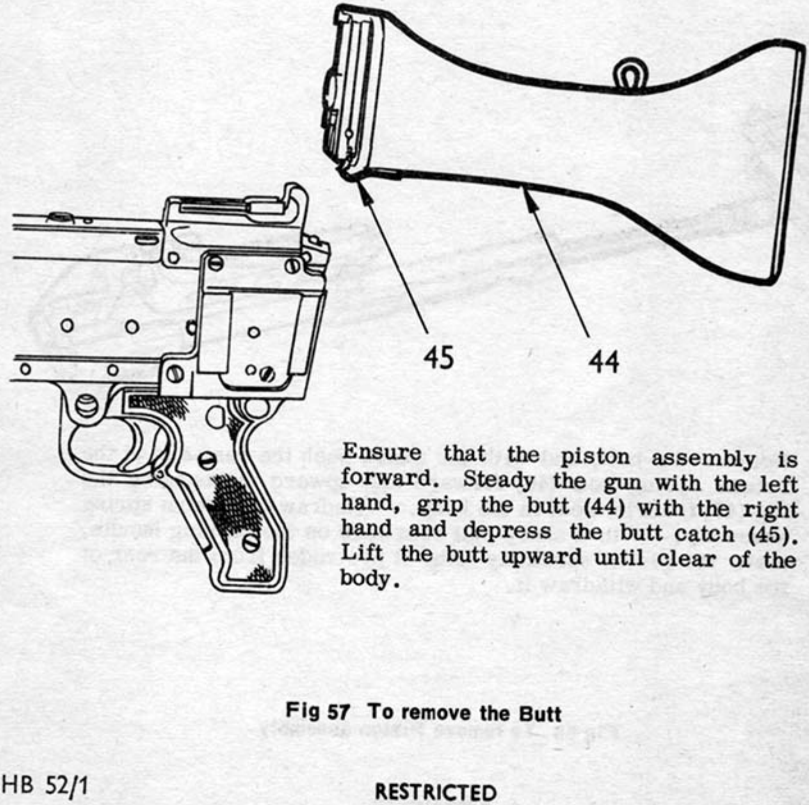
SERVICING

SECTION 1 - STRIPPING AND ASSEMBLING

Stripping

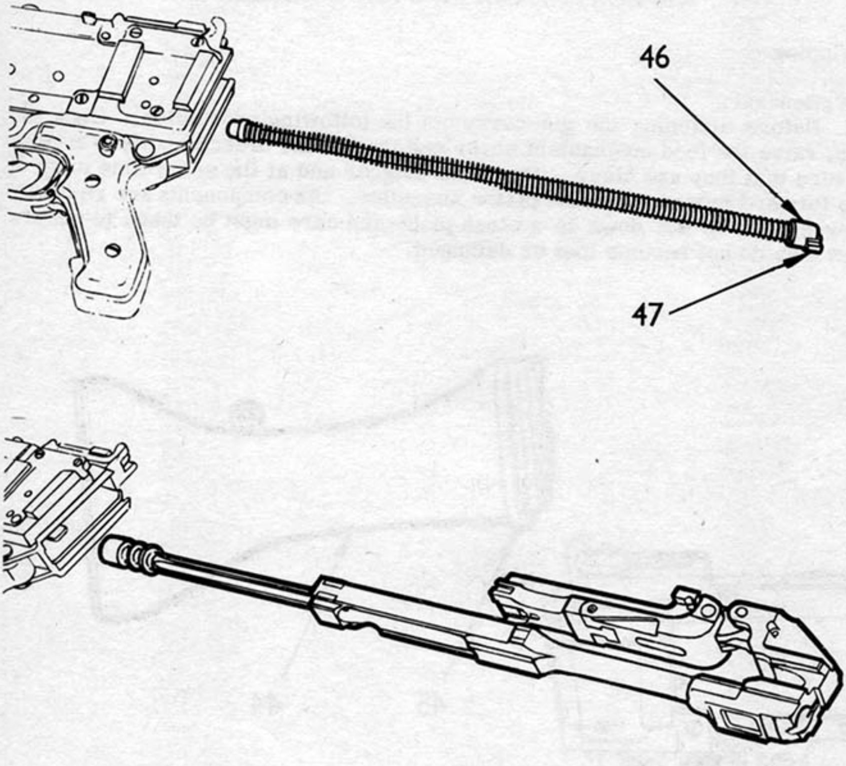
107. General.

Before stripping the gun carry out the following precaution. Cock the gun, raise the feed mechanism cover and inspect the breech and feed tray to ensure that they are clear. Press the trigger and at the same time control the forward movement of the piston assembly. As components are removed they should be set down in a clean place and care must be taken to ensure that they do not become lost or damaged.



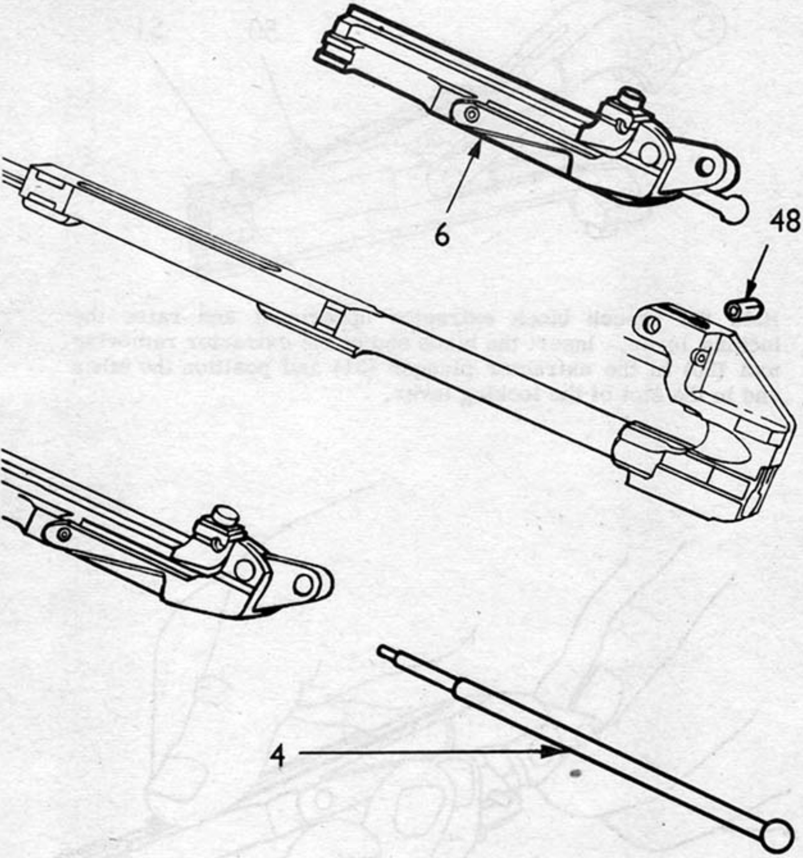
Ensure that the piston assembly is forward. Steady the gun with the left hand, grip the butt (44) with the right hand and depress the butt catch (45). Lift the butt upward until clear of the body.

Fig 57 To remove the Butt



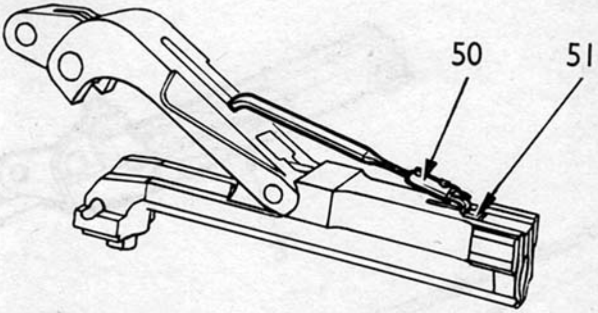
Remove the butt, and with the thumb push the rear end of the return spring rod (46) forward and upward disengaging the lug (47) from its seat in the body. Withdraw the return spring assembly. With a sharp pull rearward on the cocking handle, move the piston assembly until it protrudes from the rear of the body and withdraw it.

Fig 58 To remove Piston assembly

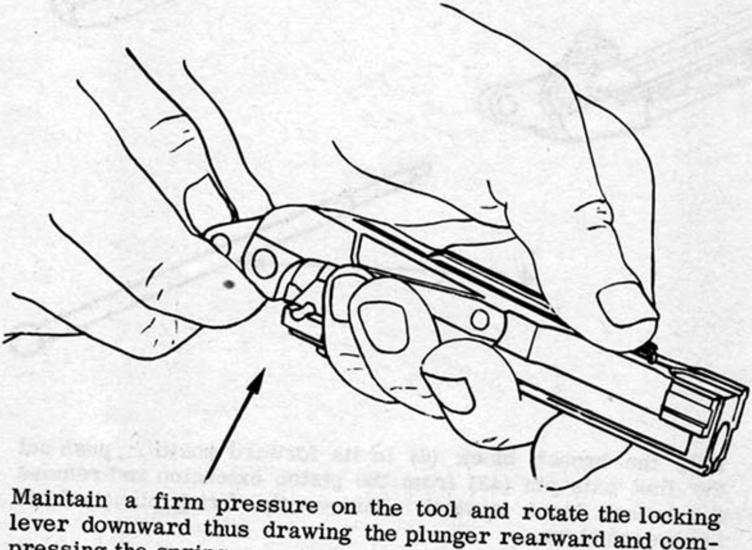


Hold the breech block (6) in its forward position, push out the link axis pin (48) from the piston extension and remove the breech block upward. Remove the firing pin (4) from the breech block.

Fig 59 To remove Breech Block and Firing Pin

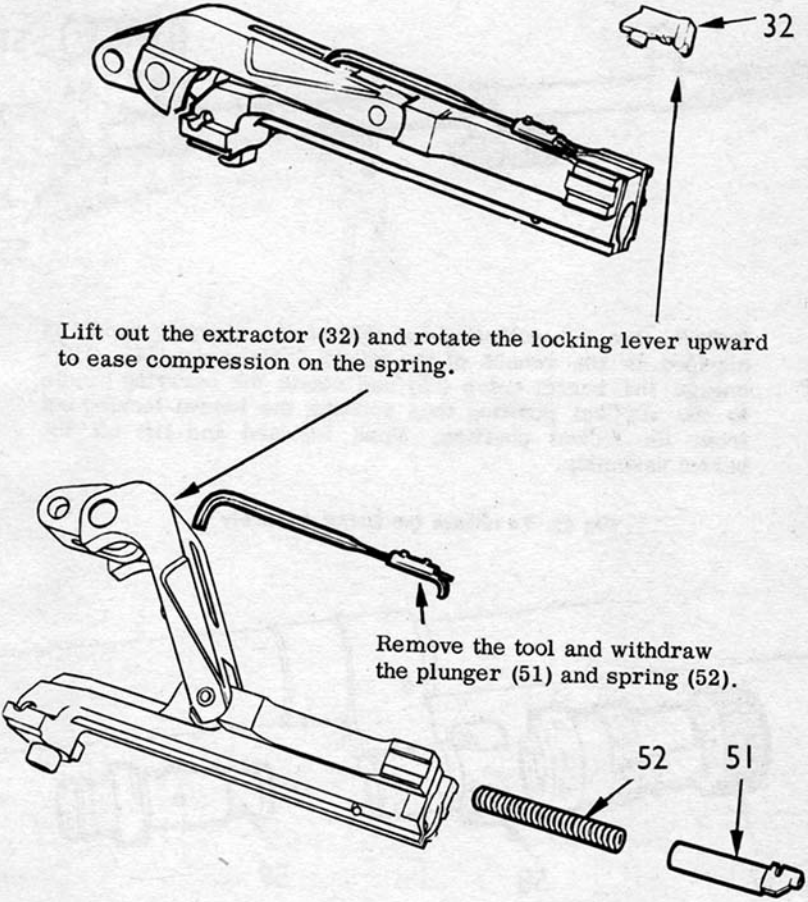


Hold the breech block extractor uppermost and raise the locking lever. Insert the blade end of the extractor removing tool (50) in the extractor plunger (51) and position the other end in the slot of the locking lever.



Maintain a firm pressure on the tool and rotate the locking lever downward thus drawing the plunger rearward and compressing the spring.

Fig 60 To remove Extractor (apply removing tool)



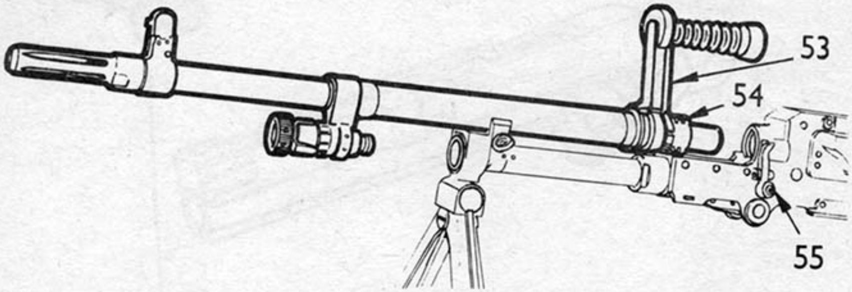
Lift out the extractor (32) and rotate the locking lever upward to ease compression on the spring.

Remove the tool and withdraw the plunger (51) and spring (52).

CAUTION:

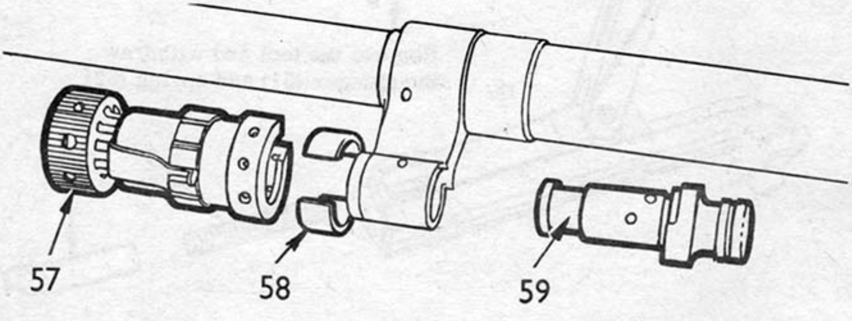
Great care must be taken to hold the tool firmly in position for if it slips the plunger or spring may be lost or may cause personal injury.

Fig 61 To remove Extractor, Plunger and Spring



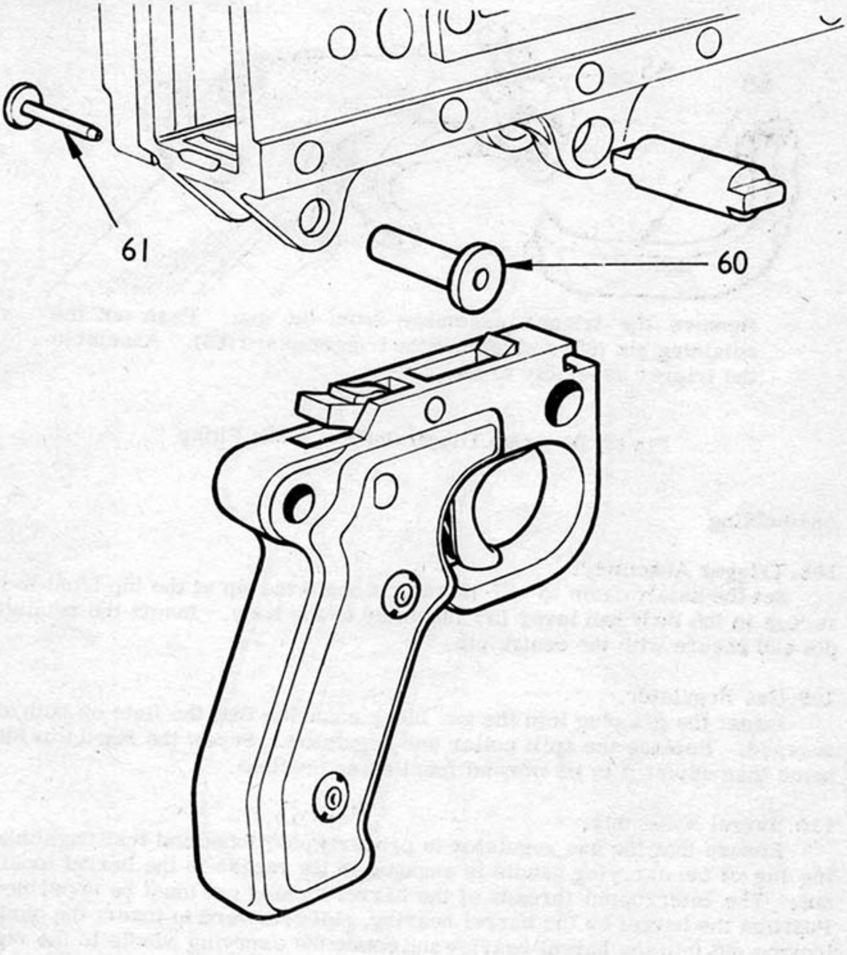
Ensure that the actuating lug (53) of the carrying handle is engaged in the recess of the barrel locking nut (54). Disengage the barrel catch (55) and rotate the carrying handle to the vertical position thus rotating the barrel locking nut from its locked position. Push forward and lift off the barrel assembly.

Fig 62 To remove the Barrel assembly



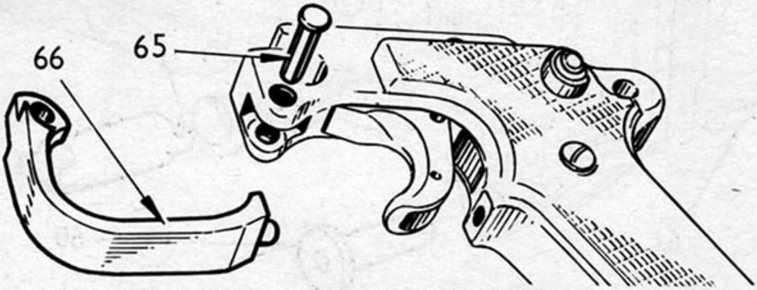
Unscrew the gas regulator (57) in an anti-clockwise direction and withdraw it. Hold one hand underneath in case the split collar should drop. Remove the split collar (58) from the front end of the gas plug (59) and push the plug to the rear and withdraw it.

Fig 63 To remove the Gas Regulator



Remove the rear mounting pin. Remove the joint pin from the trigger grip by pushing out the retaining pin (60) from one side and the centre pin (61) from the other. Remove the assembly downward from the body.

Fig 64 To remove Trigger assembly



Remove the trigger assembly from the gun. Push out the retaining pin (65) and remove the trigger guard (66). Assemble the trigger assembly to the gun.

Fig 65 Removing Trigger Guard – Arctic Firing

Assembling

108. Trigger Assembly.

Set the safety catch to "F" (Fire). Locate the lip at the top front in its recess in the body and lever the assembly to the body. Insert the retaining pin and secure with the centre pin.

109. Gas Regulator.

Insert the gas plug into the gas block ensuring that the flats on both are engaged. Replace the split collar and regulator. Screw the regulator fully home then adjust it to its normal functioning position.

110. Barrel Assembly.

Ensure that the gas regulator is properly positioned and that the actuating lug of the carrying handle is engaged in its recess in the barrel locking nut. The interrupted threads of the barrel locking nut must be uppermost. Position the barrel on the barrel bearing, pull rearward to insert the barrel locking nut into the barrel bearing and rotate the carrying handle to the right thus locking the nut to the bearing. The barrel locking catch should not be depressed but allowed to operate freely to engage the ratchet teeth of the barrel locking nut.

111. Extractor.

Insert the spring and plunger and place the blade of the extractor removing tool in the slot of the plunger holding the tool down firmly. Place the other end of the tool in the slot of the locking lever and close the lever to the breech block thus drawing the plunger rearward. Replace the extractor and release pressure on the plunger by rotating the lever away from the breech block. Remove the extractor removing tool.

112. Breech Block and Firing Pin.

Insert the ball of firing pin into its recess in the piston extension post and slide the breech block on to the firing pin. Marry up the link with the extension post and insert the link pin.

113. Piston Assembly.

Guide the piston into the lower half of the body and at the same time hold the breech block fully forward and up, guiding it on to its guideways in the body. Press the trigger and push the recoil mechanism fully forward. Insert the return spring assembly and ensure that the lug on the rod is fully engaged in its slot in the body.

114. Butt.

Place the forward end into the guides in the rear of the body and press down until the catch engages.

115. Tests.

When all parts of the gun are assembled, test by cocking the gun and pressing the trigger, at the same time controlling the forward movement of the piston assembly.

SECTION 2 - CARE AND CLEANING

116. General.

Although the equipment is designed to stand up to active service conditions, its efficiency will depend largely on its mechanical condition. The required standard cannot be achieved by spasmodic attention, it is therefore essential that regular inspection and servicing is carried out to keep all parts in a condition that will give perfect functioning and continued accuracy. Care and cleaning must also include tools and accessories. Ammunition and links must be kept dry and clean.

Tools and Accessories

117. Wallet, Spare Parts (Fig 66).

Tools and accessories are carried in the spare parts wallet. The contents of the wallet are:

a. Pin, firing.

b. Tool, cleaning piston and cylinder.

c. Tool, cleaning gas ports.

d. Extractor, ruptured cartridge.

e. Rod, cleaning.

f. Brush, cleaning bore.

g. Brush, cleaning chamber and gas cylinder.

h. Brush, cleaning gas cylinder.

j. Can, oil.

k. Pullthrough, Mk 7.

l. Tool, cleaning gas regulator, containing:

  (1) Extractor and spring.

  (2) Extractor plunger.

  (3) Collar, split, gas regulator.

  (4) Pin, securing link.

  (5) Tool, foresight and extractor.

118. Chest, 7.62 mm No 1 Mk 1.
The chest is provided for use when transporting the gun within the Unit.

Lubrication

119. Lubricants and Preservatives.
Lubricants are used to reduce friction or wear of mechanical parts, and to reduce or absorb heat and also to prevent corrosion. They can, for convenience, be divided into three groups, ie, oils, greases and miscellaneous products. Each lubricant is allotted a symbol consisting of a group of two or three letters followed by one, two or three figures. The letters indicate the general nature or name of the lubricant, and the figures distinguish it from the others of the same general class. The symbol will be accompanied by the word "Oil" or "Grease" as appropriate. For practical purposes it is sufficient to know that in the case of oils the larger the number the thicker the oil, and the larger the number the softer the grease. Miscellaneous products are numbered serially and the number has no other significance.

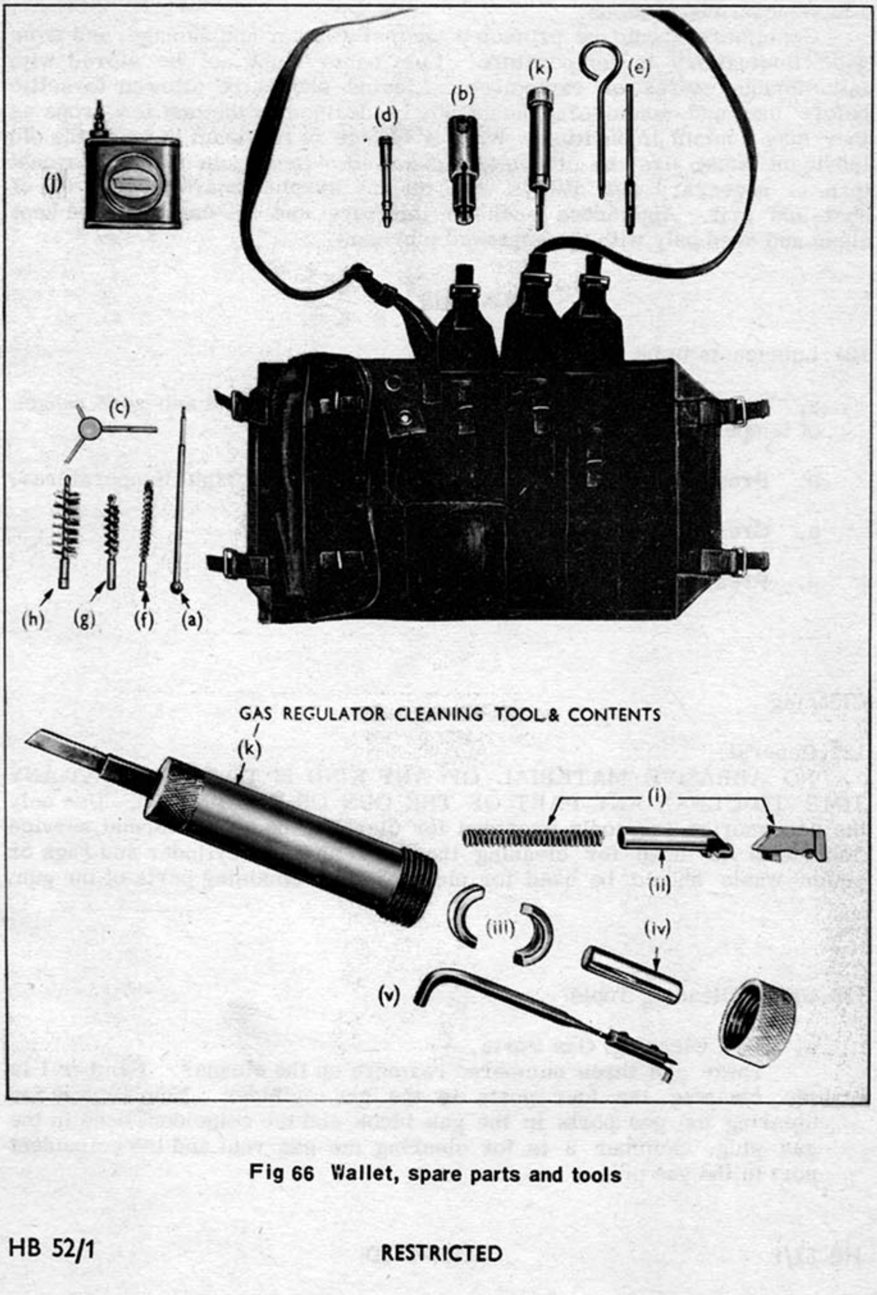


Fig 66 Wallet, spare parts and tools

120. General Instructions.

Containers should be protected against weather and damage, and from wide fluctuations in temperature. Lubricants must not be stored with inflammable stores or explosives. Liquids should be allowed to settle before use and containers should not be drained of the last few drops as they may contain impurities. When a change of lubricant is made the old lubricant must first be completely removed. Never use more lubricant than is necessary and always wipe off any surplus to avoid collection of dust and grit. Appliances such as injectors and oil cans must be kept clean and used only with the approved lubricant.

121. Lubricants to be Used:

a. Oil, OX18 - for all purposes at normal, low and sub-zero ranges of temperature.

b. Preservative PX4 - for all purposes at high temperatures.

c. Grease XG279 - for beach landings.

d. Preservative PX11 - for storage.

Cleaning

122. General.

NO ABRASIVE MATERIAL OF ANY KIND IS TO BE USED AT ANY TIME TO CLEAN ANY PART OF THE GUN OR EQUIPMENT. Use only the accessories and tools provided for cleaning the gun. Normal service flannelette is used for cleaning the bore and gas cylinder and rags or cotton waste should be used for cleaning the remaining parts of the gun.

123. Use of Cleaning Tools:

a. Tool Cleaning, Gas Ports.

There are three numbered reamers on the cleaner. Number 1 is for clearing the four ports in the gas cylinder. Number 2 is for clearing the gas ports in the gas block and the coincident ones in the gas plug. Number 3 is for clearing the gas vent and the coincident port in the gas plug.

b. Tool Cleaning, Gas Regulator.

The cleaner has a two-dimension reamer for clearing the bore of the gas plug. The end of the reamer is formed into a scraper for clearing the cannelure of the regulator sleeve.

c. Tool Cleaning, Piston and Cylinder:

(1) To Clean Recess and Cannelure of Piston.

Insert any section of the cleaning rod into the hole provided in the tool and withdraw the inner member to retract the cutting face of the blade. Remove the rod section, insert the end of the tool into the piston recess and continue with a reaming action until the shoulder of the tool contacts the piston face. Insert the rod section and with pressure applied continue the reaming action until the cutting edge of the blade is fully extended. Retract the cutting blade by applying pressure between the end of the tool and rod section and the tool can be freely removed.

(2) To Clean Recessed Bore of Gas Cylinder.

Insert any section of the cleaning rod into the hole provided in the tool and withdraw the inner member to retract the cutting face of the blade. Insert the tool into the cylinder until the shoulder contacts the cylinder face. With pressure applied continue with a reaming action until the cutting edge of the blade is fully extended. This will remove as much fouling as is desirable. Further use of the tool may damage the plated surface. Retract the cutting blade by applying pressure between the end of the tool and rod section and the tool can be freely removed.

124. Normal Cleaning.

Ensure that the gun is unloaded and strip it. Attach a piece of flannelette 100 x 50 mm (4 x 2 inches) to the cleaning rod and insert it into the bore from the chamber end. Clean the bore ensuring that the rod does not rub against the bore or chamber. Clean the chamber with the chamber cleaning brush attached to the rod and then inspect the bore and chamber to make sure all is clean. Oil the barrel and clean and oil the flash eliminator. Attach the cylinder brush to the rod and wrap a piece of flannelette 101 x 152 mm (4 x 6 inches) around it. Clean the cylinder from the front end and inspect it, then oil it using a piece of flannelette 101 x 101 mm (4 x 4 inches) in the rod eyelet. Clean the remainder of the gun with an oily rag, reassemble the gun and test the recoil mechanism. Check and clean spare parts.

125. Cleaning Before Firing.

Strip the gun as for daily cleaning. Slide back the dust cover, thoroughly clean the guide ribs and lightly oil them. Slide the dust cover forward. Clean the remainder of the gun and leave it dry, or lubricate as follows (see also Fig 67):

Lubricate	Leave dry
Return Spring	Barrel
Breech Block	Gas Cylinder
Guides	Gas Regulator
Locking Lever	Piston, especially the head and between the rings
Locking Shoulder	
Trigger Mechanism	Face of Breech Block
Feed Mechanism	Exterior of weapon
Butt Catch	Sights
Barrel Locking Nut	
Piston Extension	
Primary Extraction Faces - (This is highly important)	

126. Adverse Conditions.

When preparing the gun for firing in adverse conditions, ie, sand or artic, the gas regulator must be set to give maximum gas.

127. Examination.

When the gun has been prepared for firing ensure that:

a. The barrel is locked firmly in position.

b. The flash hider is secure.

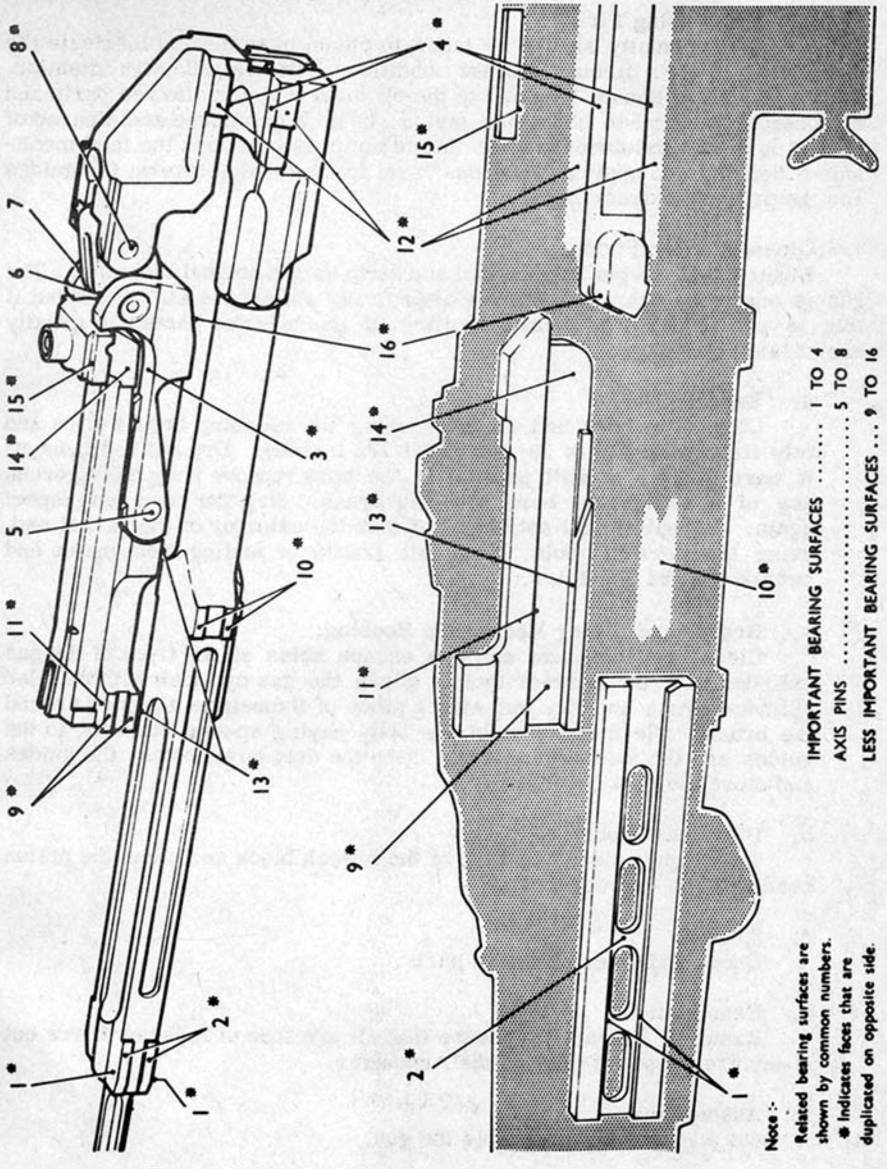
c. The gas regulator is set correctly for the conditions under which it is to be fired.

d. The recoil mechanism operates correctly.

e. Ammunition belts are in good condition and properly filled.

f. Spare parts are correct and in good condition.

g. There is sufficient oil and cleaning materials.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IMPORTANT BEARING SURFACES .... 1 TO 4
AXIS PINS .... 5 TO 8
LESS IMPORTANT BEARING SURFACES ... 9 TO 16
Note :-
Related bearing surfaces are shown by common numbers.
* Indicates faces that are duplicated on opposite side.

Fig 67 Lubrication diagram – Breech Mechanism and Body

128. Cleaning During Firing.

Every opportunity should be taken to clean, examine and lubricate the gun during lulls in firing. Desert conditions will demand extra attention. Special attention should be given to the chamber and gas affected parts and if possible the breech block and piston should be removed and cleared of fouling and then relubricated. If this is not possible, open the feed mechanism housing and apply a few drops of oil to the locking levers, the guides and the primary extraction faces.

129. Cleaning After Firing.

Ensure that the gun is unloaded and strip as for normal cleaning. The gun is easier to clean immediately after firing whilst it is still warm but if this is not possible a thorough oiling of gas affected parts will greatly assist later cleaning:

a. Barrel.

Clean the bore and chamber using the cleaning accessories and oily flannelette 101 x 38 mm (4 x 1 1/2 inches). Dry out and inspect. If hard fouling is still present in the bore remove it by the vigorous use of a well oiled bore cleaning brush. Dry the bore and inspect again. Repeat if still not clean. Clean the exterior of the barrel and, using the correct tools, clear all traces of fouling from inside and outside the gas regulator.

b. Breech and Firing Mechanism Housing.

Clean the cannelure and gas escape holes at the front of the gas cylinder with the correct tools. Clean the gas cylinder with an oiled cylinder brush and dry out with a piece of flannelette wrapped around the brush. Clean the rest of the body paying special attention to the guides and the feed mechanism. Open the dust cover, clean the guides and close the dust cover.

c. Piston Assembly.

Thoroughly clean the face of the breech block and clean the piston head with the correct tool.

d. Spares.

Check and clean all spare parts.

e. Examination.

Examine all parts to ensure that all are free of flaws or burrs but if any are present report to the Armourer.

f. Assembling.

Oil all parts and assemble the gun.

130. Care After Firing.

The bore, chamber, gas cylinder and gas affected parts must be thoroughly cleaned, inspected and reoiled daily for several days after firing. Inspection must be more frequent during humid conditions keeping a careful watch for rust. If oil has to be used to remove rust use it sparingly and remove all traces of oil when clean. In desert conditions of extreme dust and sand the gun should be wiped dry. The gun should be dried out by sweating the parts in the sun and constantly wiping off the exuding oil. As the gun is dry frequent inspection for rust is essential. Cleaning brushes should be washed in soap and water and dried before use.

SECTION 3 - ZEROING

131. General.

The gun is zeroed before issue to the firer but may require adjustment to suit the individual. Adjustments must be carried out by qualified personnel only.

132. Correction for Elevation.

Errors in elevation are corrected by screwing the foresight up or down using the combination tool. If it is screwed down the MPI will be moved up and vice versa. One half turn of the foresight, ie, 3200 mils (180 degrees) will move the MPI vertically approximately 13 mm (1/2 inch) at 25 metres and 51 mm (2 inches) at 100 metres. There are two sizes of foresight available and, measuring from the top of the blade to the seating face, ie, top of the screw threaded stem, one is 9.8 mm (0.386 inch) and the other 11.08 mm (0.436 inch).

133. Corrections for Direction.

Errors in direction are corrected by moving the foresight housing laterally. If it is moved to the left the MPI will be moved to the right and vice versa. To move the foresight housing to the left, loosen the adjusting screw on the left hand side and tighten the opposite one, thus moving the foresight housing along its dovetail to the left. One half turn of the adjusting screws moves the MPI 19 mm (3/4 inch) at 25 metres and 77 mm (3 inches) at 100 metres.

134. Balancing (Figs 68 and 69).

To ensure that the gun fires at a rate conducive to accurate shooting, and to ensure that trapped case stoppages are kept to a minimum, the gas regulator must be adjusted so that the gases are balanced to give this optimum rate of fire. However, with the two bent sear fitted, it is possible for the piston to engage on either the front or rear bent at the end of a burst. Since the front bent is intended as a safety measure only, it should not come into operation during normal functioning. It is therefore essential during the balancing procedure to establish that the piston is cocking on the rear bent of the sear. This is done by applying the safety catch at the end of a burst, and moving the cocking handle back until it contacts the piston; this indicates which sear bent is engaged. If the position of the cocking handle coincides with the white line painted on the body of the gun (Fig 68) the piston is cocked on the rear bent. If the cocking handle is approximately 13 mm (1/2 inch) forward of the white line (Fig 69), the piston is cocked on the front bent.

135. Method of Testing.

Prepare the gun for firing and check that:

a. The gas regulator is correctly adjusted. This is done as follows:

(1) Set the gas regulator at six clicks from fully closed.

(2) Fire one burst of three to five rounds.

(3) Apply the safety catch and check that the piston is cocked on the rear bent, see para 134 and Figs 68 and 69.

(4) If it is cocked on the rear bent, open the gas regulator two more clicks.

(5) Repeat this drill until the gun fails to cock on to the rear bent; when this occurs do not open the gas regulator any more.

(6) Close the gas regulator by four clicks.

(7) Fire a burst and check that the piston is cocked on the rear bent.

(8) Note the setting of the gas regulator, and ensure that it is set there before any future firing.

b. Ensure that the foresight is in good condition, that the retainer is firmly in position and the socket headed screws tight; do not over-tighten.

c. Set the backsight at 200.

d. Fire a two or three round burst to warm the barrel.

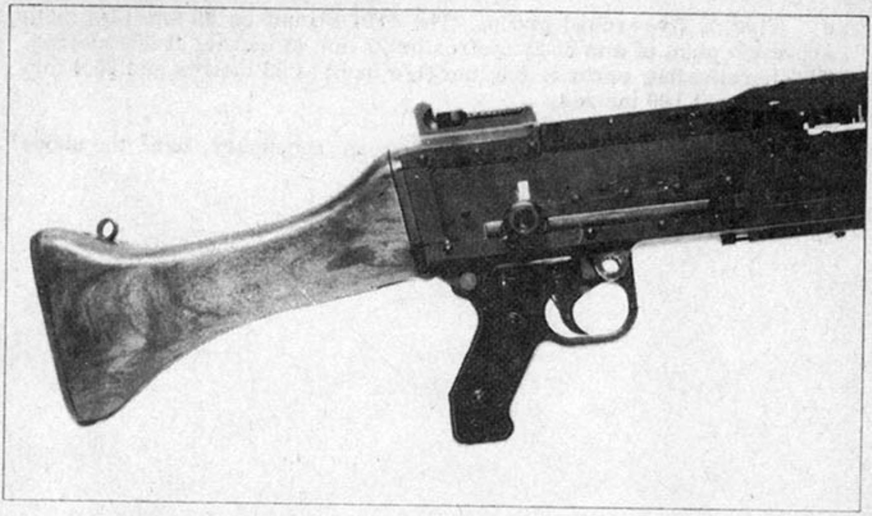

Fig 68 Position of Cocking Handle when Piston is cocked on Rear Bent

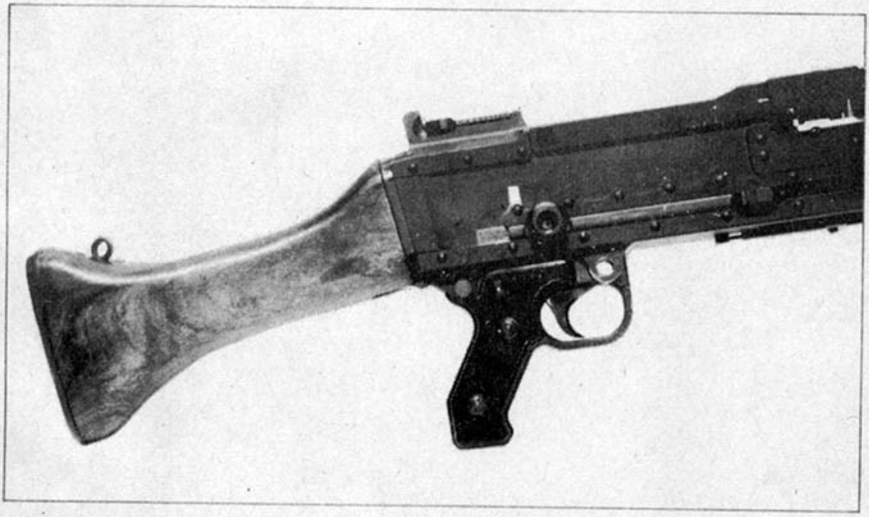

Fig 69 Position of Cocking Handle when Piston is cocked on Front Bent

e. Fire a five round group. The MPI should be 19 mm (3/4 inch) above the point of aim at 25 metres or 77 mm (3 inches) at 100 metres. The permissible error is 6.5 mm (1/4 inch) at 25 metres and 25.4 mm (one inch) at 100 metres.

f. Continue to fire groups, zeroing as necessary, until the above figures are obtained.

g. Fire a check group to confirm the zero.

CHAPTER 4

AMMUNITION

SECTION 1 - INTRODUCTION

136. General.

The ammunition used with Machine Gun, 7.62 mm, L7A2 is of two natures, ball and tracer. It is linked together (Fig 70) in disintegrating belts of two hundred rounds of ball and tracer in predetermined sequence and is issued eight hundred rounds per ammunition package. For training purposes, however, it is possible to obtain belted ball and belted tracer rounds which are issued in separate packages.

137. Ammunition is marked in accordance with the principles laid down in the Joint Services Ammunition and Ammunition Package Markings Handbook (Ministry of Defence Code No DG-1001), Section 6 Part 1. It should be noted that there may be some rounds of NATO design which do not bear the NATO design symbol on the base of the cartridge case; this symbol was introduced during 1957.

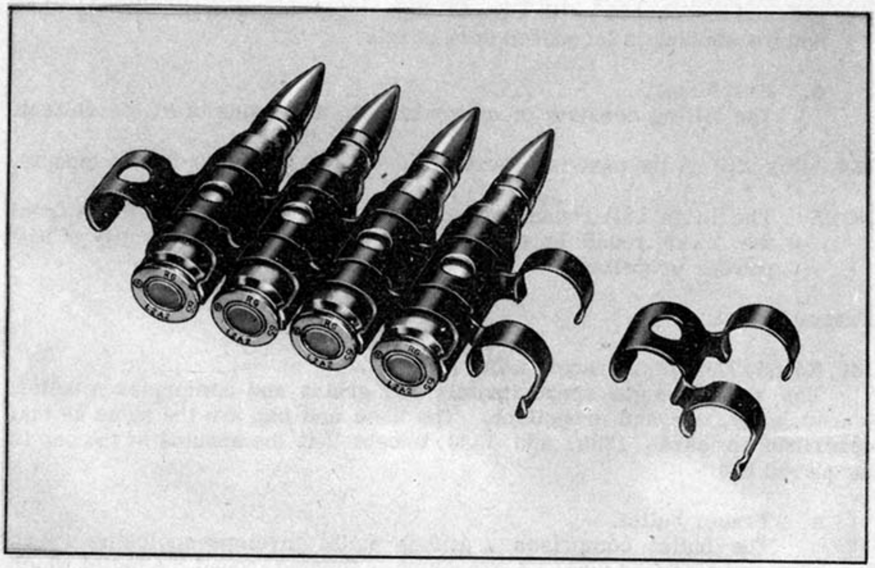

Fig 70 Disintegrating Belt

SECTION 2 - NATURES

Ball Rounds

138. Round, 7.62 mm, Ball, L2A2 (Fig 71).
The round weighs approximately 370 grains and comprises a bullet, case, cap and propellant:

a. Bullet.
Consisting of a gilding metal envelope enclosing a lead and antimony alloy core, the bullet normally weighs 144 grains and is cannelured near the base for the attachment of the case.

b. Case.
The case, made of cartridge brass, is necked and is of rimless design. The base is formed with a cap chamber and an integral anvil with two fire holes leading to the interior of the case. The Contractor's initials or recognised trade mark is stamped on the base.

c. Cap.
The cap is drawn from cartridge brass and is varnished internally. It is filled with 0.5 grain of an approved cap composition, normally VH2, pressed and covered with a paper disc. It is ringed in the cap chamber and the annulus is lacquered dark purple.

d. Propellant.
The filling consists of approximately 44 grains of NC propellant.

139. After filling, the case is secured to the bullet by six 60 degree indents.

NOTE: The L2A4 ball round has now been approved. This differs from the L2A2 round in that the charge consists of a quantity of ball powder propellant.

Tracer Rounds

140. Round, 7.62 mm, Tracer, L5A3 (Fig 72).
The round weighs approximately 365 grains and comprises a bullet, tracer, case, cap and propellant. The case and cap are the same as that described in paras 138b. and 138c. except that the annulus of the cap is lacquered red:

a. Tracer bullet.
The bullet comprises a gilding metal envelope enclosing a lead core and a copper tube. A cannelure is formed around the bullet which retains the tube in position and facilitates the attachment of the case.

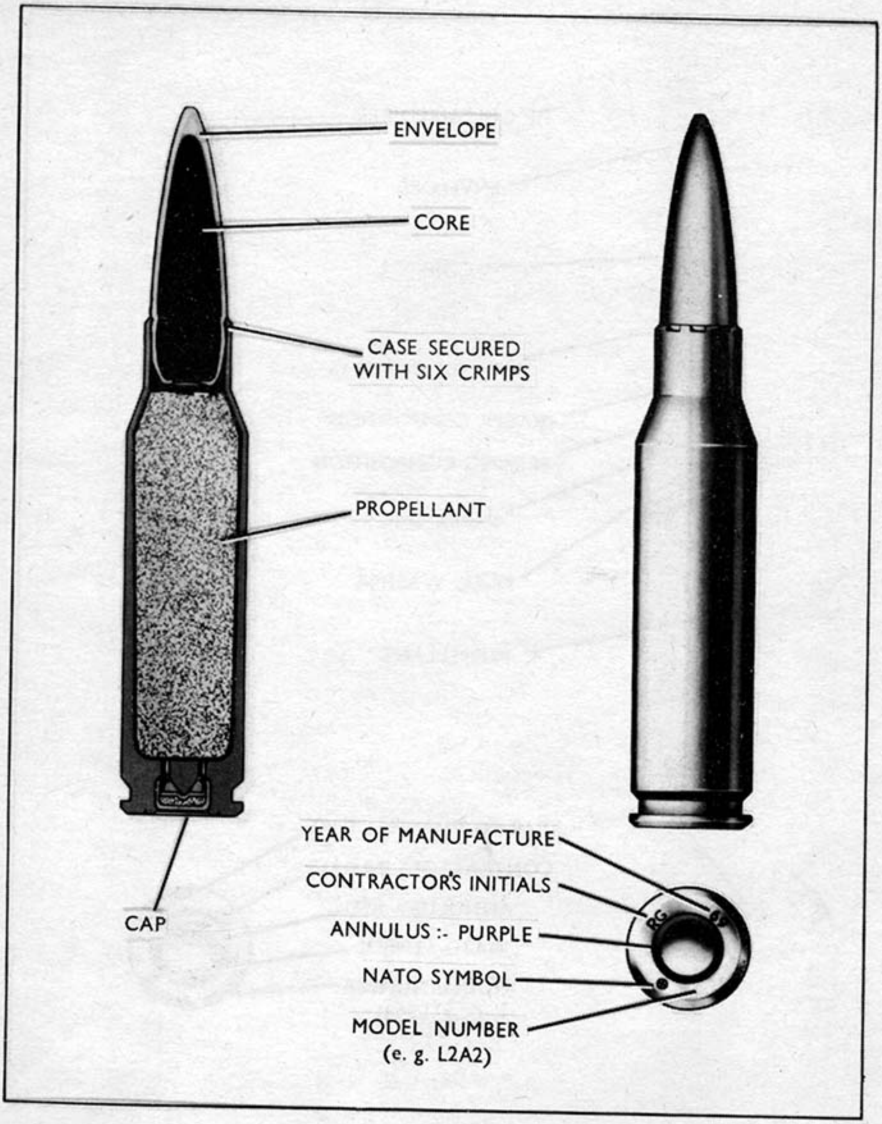

Fig 71 L2 Ball Round

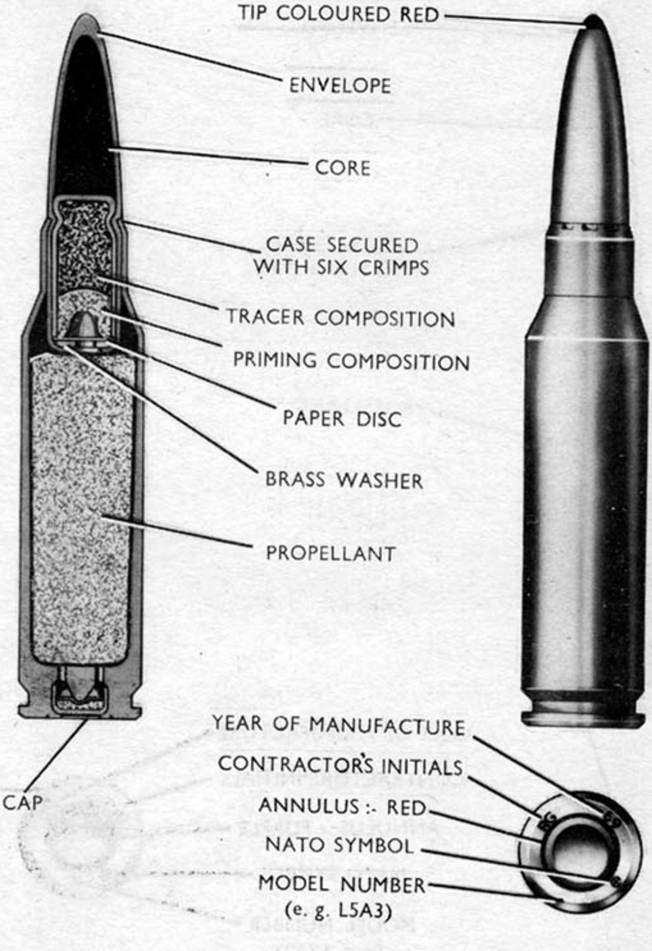

Fig 72 L5 Tracer Round

The copper tube is filled with a pressing of tracing composition and a small quantity of priming composition. The filling is retained in position by a paper disc and brass washer, the rear end of the envelope being coned over the washer. The tip of the bullet is coloured red for easy identification.

b. Propellant.
The filling consists of a quantity (as may be ordered) of NC propellant.

141. After filling, the case is secured to the bullet by six 60 degree indents.

142. Round, 7.62 mm, Tracer, L5A1.
The L5A1 differs from the L5A3 round only in that it has a propellant difference which results in a lower velocity performance.

NOTE: The L5A4 tracer round has now been approved. This differs from the L5A3 round in the tracing and priming compositions in the bullet, and in the charge in the cartridge case. The charge consists of a quantity of ball powder propellant.

SECTION 3 - PACKAGING

143. General.
Ammunition used with the Machine Gun, 7.62 mm, L7A2 is packed and issued in packages described in the following paragraphs. These packages are painted and marked in accordance with the Joint Services Ammunition and Ammunition Package Markings Handbook (Ministry of Defence Code No DG-1001), Section 5 Part 2.

Packages

144. Package, Ammunition, No 206, Mk 1 (Fig 73).
This package consists of Carrier, No 29, Mk 1, four Boxes, No H84 Mk 1 and package fitments:

a. Carrier No 29 Mk 1 (Fig 74).
Of sheet metal, the carrier is designed to accommodate four Boxes, No H84, Mk 1 and comprises top and bottom trays. The top tray is fitted with two carrying handles and four toggle catches, and the bottom tray is provided with four catches. When the boxes are positioned between the trays they are secured by the four catches.

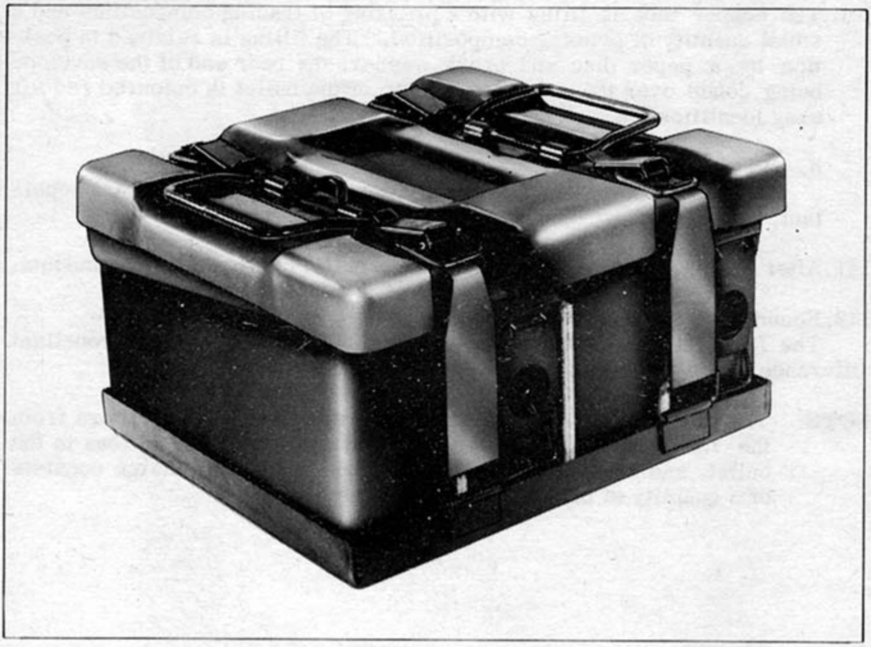

Fig 73 Ammunition Package

b. Box, No H84, Mk 1 (Fig 74).

Of sheet metal, the box is rectangular in shape and is designed to accommodate two hundred rounds with packing pieces. One end is embossed with the markings "H84 Mk 1" and "SV 479 A" together with Contractor's initials or recognised trade mark and year of manufacture. The lid is hinged, has a rubber seal on the inside and is provided with a lifting handle. It is secured in the closed position by a toggle catch.

c. Dimensions:

(1) Package:

(a) Length	349 mm	(13.75 inches).
(b) Width	302.3 mm	(11.9 inches).
(c) Depth	196.8 mm	(7.75 inches).

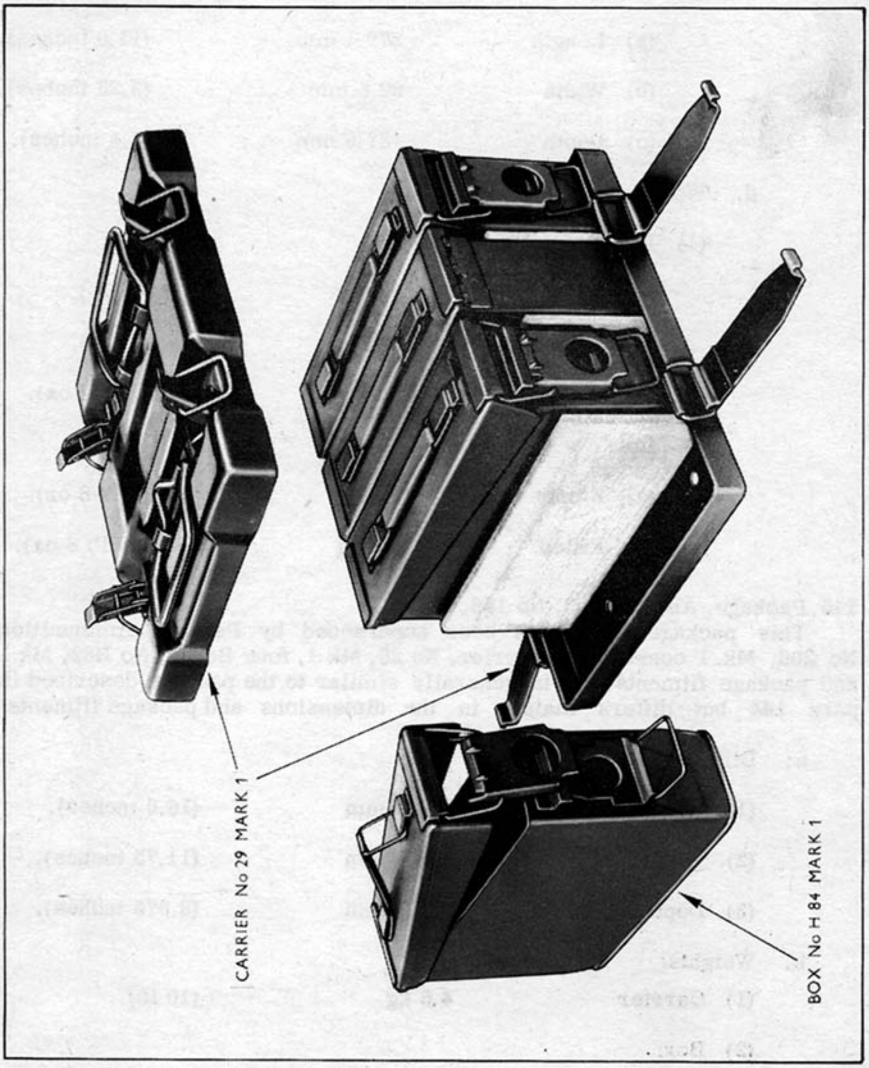

Fig 74 Breakdown of Ammunition Package

(2) Box:		
(a) Length	279.4 mm	(11.0 inches).
(b) Width	82.6 mm	(3.25 inches).
(c) Depth	187.9 mm	(7.4 inches).
d. Weights:		
(1) Package:		
(a) Empty	9.5 kg	(21 lb).
(b) Filled	32.2 kg	(71 lb).
(2) Carrier:	3.2 kg	(7 lb 2 oz).
(3) Box:		
(a) Empty	1.6 kg	(3 lb 8 oz).
(b) Filled	6.8 kg	(15 lb 8 oz).

145. Package, Ammunition, No 186, Mk 1.

This package which has been superseded by Package Ammunition No 206, Mk 1 consists of Carrier, No 26, Mk 1, four Boxes, No H82, Mk 1 and package fitments. It is generally similar to the package described in para 144 but differs mainly in the dimensions and package fitments:

a. Dimensions:		
(1) Length	406.4 mm	(16.0 inches).
(2) Width	298.5 mm	(11.75 inches).
(3) Depth	213.3 mm	(8.375 inches).
b. Weights:		
(1) Carrier	4.5 kg	(10 lb).
(2) Box:		
(a) Empty	1.7 kg	(3 lb 12 oz).
(b) Filled	35.4 kg	(78 lb).

DIFFERENCES BETWEEN THE L7A1 AND THE L7A2 GUNS

1. After acceptance and initial use of the gun a number of improvements and special requirements were proposed and later adopted. To these were added some minor changes introduced to ease or simplify production. The various changes were incorporated in manufacture at different times according to their importance or the cost involved. Eventually all design changes were incorporated and the model number was advanced to L7A2. Some of the changes were of a major nature whilst others concerned only minor dimensional or material specification changes and consequently are not readily identified. Listed below are the significant differences of the L7A2 gun compared with the original L7A1 gun:

a. Major differences:

(1) Provision for 50 rd feed box - for use in close quarter battle role.

(2) Two bent sear - improved mechanical safety.

(3) Improved retention of bipod adjusting screw.

(4) Repositioning of the rear sling swivel.

(5) Fitting of two part cartridge pawls - to improve feed.

b. Minor differences:

(1) Grip, carrying handle - glass filled nylon (Marynal) - improved heat resisting properties.

(2) Arm, carrying handle - steel.

(3) Bipod legs - strengthened pattern stop plates.

(4) Butt - increased clearance for buffer housing.

(5) Return spring - ends of spring tinned.

(6) Return spring assembly - socket secured by 'Loctite'.

(7) Barrel and gas block - dimensional and material specification changes.

(8) Axis pin for cartridge pawls - improved pattern.

(9) Feed arm - increased curvature to improve feed.

(10) Inner feed pawl - clearance to suit M13/2 link (Marked with an 'M').

(11) Cover plate, access - holes in lieu of serrations - to ease production.

(12) Housing feed mechanism - rectangular pads in lieu if circular bosses - to ease production.

50 ROUND BELT FEED BOX

1. General (Fig 1).

The belt box, of sheet metal construction, holds a 50 round belt and weighs approximately eleven ounces. The top of the box is enclosed by a hinged lid in which a cover plate, controlled by a spring, allows correct positioning of the rounds and facilitates the feeding of the belt. The belt box is fitted to the gun by means of an angled bracket, which fits in a channel on the body of the gun and by a spring controlled latch which engages the stud on the body of the gun.

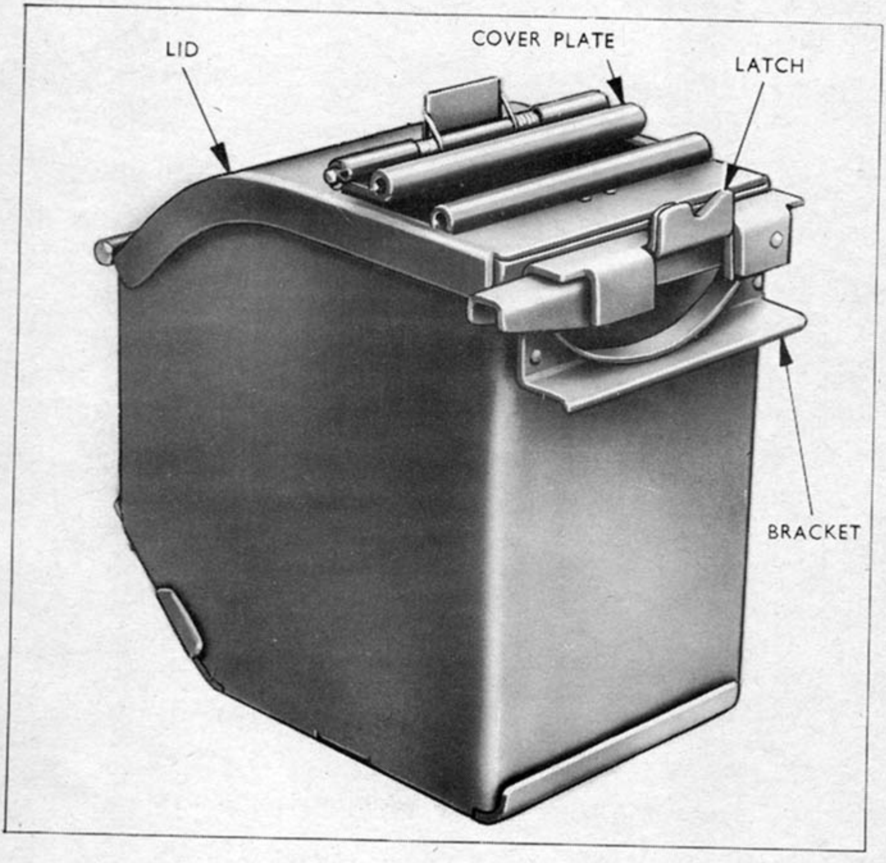

Fig 1 Belt Feed Box

BLANK FIRING ATTACHMENT L3A1

1. General (Figs 1 to 3).

The blank firing attachment (Fig 1) acts as a choke when fitted to the muzzle of the barrel. It is in the form of a cap which is internally screw threaded to fit on the muzzle (Fig 2) and is attached after the removal of the flash hider. The front of the cap is formed to receive a spanner and in its front face is a hole which permits passage of some of the gases. Most of the gases are forced through the gas port to act upon the piston cap and drive the piston rearward. Automatic action is thus produced as if firing with live ammunition.

2. Since the blank cartridge is shorter than a live round, a distance piece must be used to partly close the feed aperture and prevent faulty feeding of ammunition. To achieve this a "Blank ammunition guide plate Mk 1" is attached to the feed tray (Fig 3).

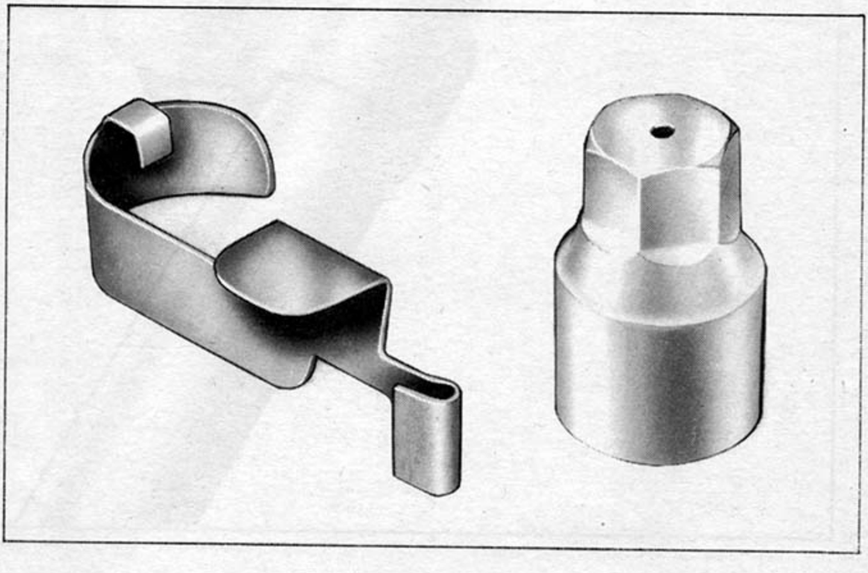

Fig 1 Blank Firing Attachment

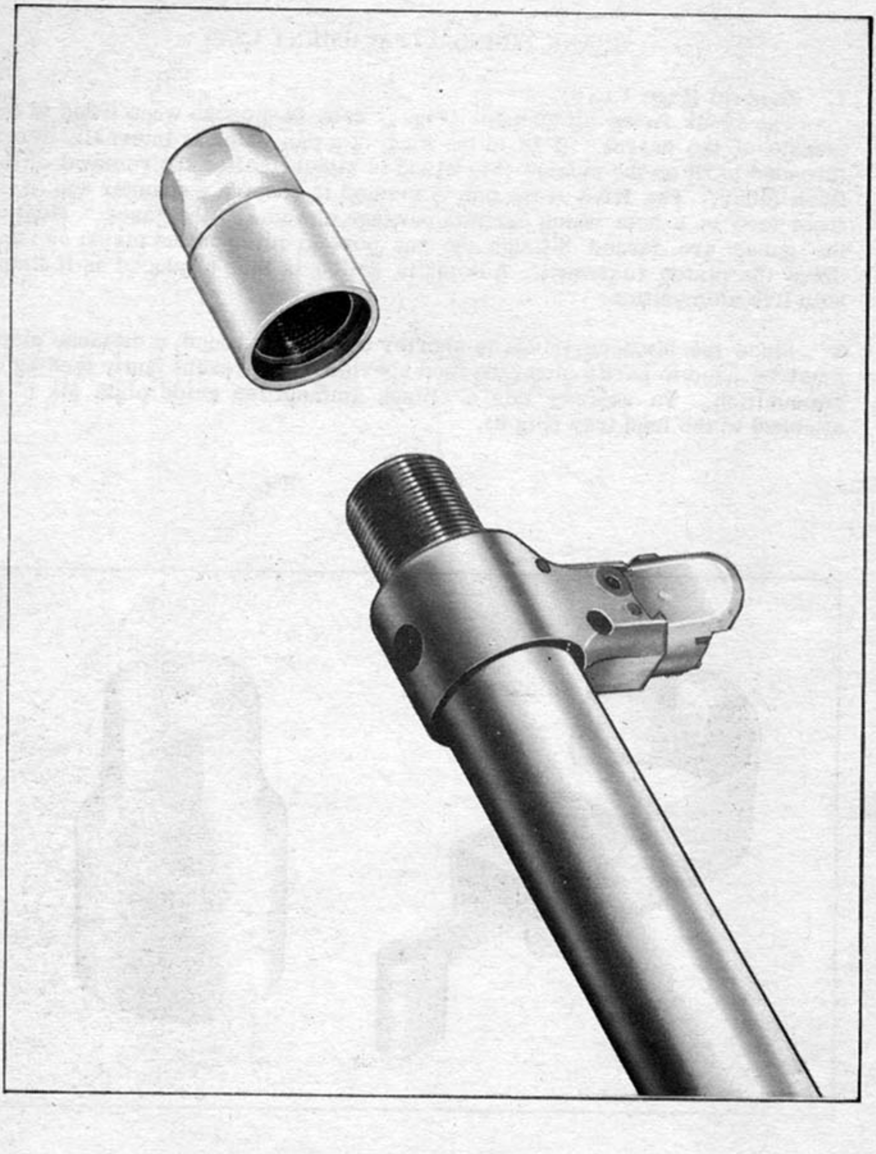

Fig 2 Assembly of Attachment

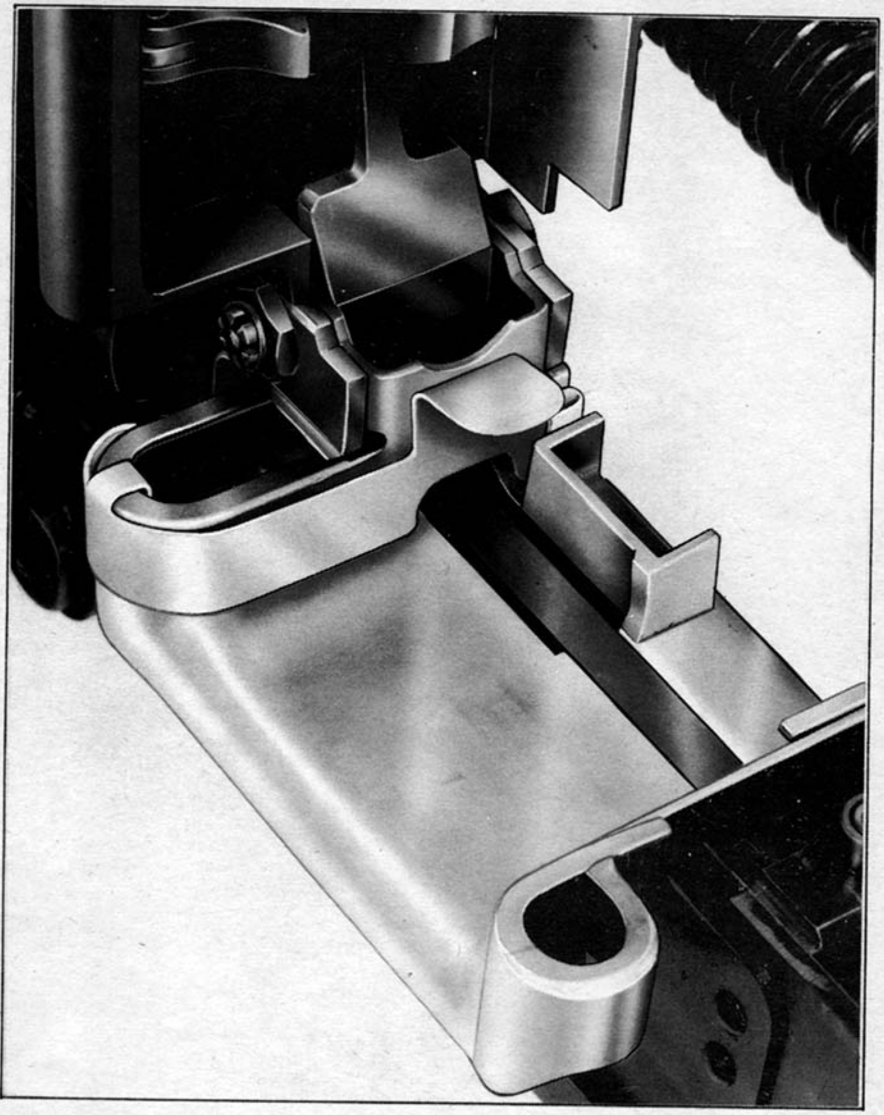

Fig 3 Blank Ammunition Guide Plate

COVER, MUZZLE, 7.62 mm MACHINE GUN L1A2

1. The cover (Fig 1) is designed to prevent the ingress of foreign matter particularly snow, slush and water. It is fitted over the flash hider and retained in position by a securing flap which passes over the foresight protectors. A lanyard is provided with a snap hook at each end for engagement to the cover and bipod sling swivel respectively. The cover is made of rubber and it is to be removed before firing, however, in an emergency the weapon may be fired with the cover fitted.

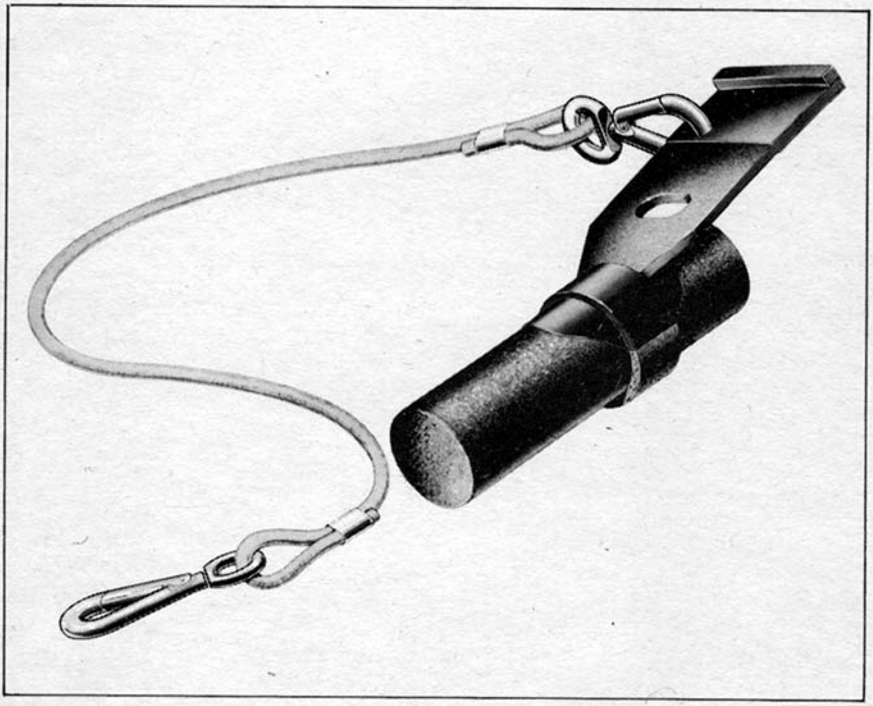

Fig 1 Muzzle Cover

DISABLEMENT AND DESTRUCTION OF EQUIPMENT

1. The extent to which an equipment is disabled or destroyed will depend upon the time available and the probability of its recapture by our own forces.

2. There are normally three stages to be considered:

a. Disablement to an extent which will allow the equipment to be brought back to a serviceable condition soon after recapture.

b. Disablement to an extent which will require repair before the equipment can be brought back to a serviceable condition.

c. Destruction.

3. It is essential when disabling equipments that the same procedure is followed by all personnel so that all equipments are disabled in the same manner to obviate the chance of complete equipments being made up from those captured.

4. When disablement is carried out by the removal of parts of an equipment, any spares carried either on the equipment or in a store which is liable to capture, must also be removed.

5. Any documents, notes, instructions, or other written material pertaining to function, operation, maintenance, or employment, including drawings or parts list, must be destroyed in a manner to render them useless to the enemy.

6. To Disable a gun so that it can be brought back to a serviceable condition soon after Recapture.
Remove and retain the following parts:

a. Breech block.

b. Pistol grip.

7. To Disable a gun so that it can be brought back to a serviceable condition after Repair.
Remove and damage the parts listed in para 6 sub paras a. and b.

8. **Destruction.**
The following actions will prove effective:

a. Plug the barrel near the chamber or bury the muzzle in the ground.

b. Load and fire by remote control from behind cover.

c. Dispose of any essential undamaged parts.

d. Do not neglect the disposal of spare parts.

CONVERSION TABLES

DEGREES - MILS - DEGREES

•

YARDS - METRES - YARDS

•

INCHES - MILLIMETRES - INCHES

1. This table can be used to convert degrees to mils and mils to degrees.

To convert degrees and minutes to mils

2. Enter the left hand column at the nearest 10 degrees below the figure to be converted. Leave horizontally across the table to a point vertically below the unit figure required and record the mils figure. Enter the smaller table at the number of minutes to be converted, to the nearest five minutes, and add the equivalent number of mils to the figure already recorded.

To convert mils to degrees and minutes

3. Enter the body of the table and find the greatest number of mils in the table below the figure to be converted, by moving horizontally and vertically to the 'tens' and 'units' degrees record the number of degrees. In the smaller table find the figure, in the mils column, nearest to the difference between the number of mils found in the table and the number to be converted and record the equivalent number of minutes.

Degrees	0	1	2	3	4	5	6	7	8	9
0	0	18	36	53	71	89	107	124	142	160
10	178	196	214	231	249	267	285	302	320	338
20	356	374	392	409	427	445	463	480	498	516
30	533	551	569	586	604	622	640	657	675	693
40	711	729	747	764	782	800	818	835	853	871
50	889	907	925	942	960	978	996	1013	1031	1049
60	1067	1085	1103	1120	1138	1156	1174	1191	1209	1227
70	1244	1262	1280	1297	1315	1333	1351	1368	1386	1404
80	1422	1440	1458	1475	1493	1511	1529	1546	1564	1582
90	1600	1618	1636	1653	1671	1689	1707	1724	1742	1760
100	1778	1796	1814	1831	1849	1867	1885	1902	1920	1938
110	1956	1974	1992	2009	2027	2045	2063	2080	2098	2116

mins.	mils
5	1.5
10	3
15	4.5
20	6
25	7.5
30	9
35	10.5
40	12
45	13.5
50	15
55	16.5
60	18

Degrees	0	1	2	3	4	5	6	7	8	9
120	2133	2151	2169	2186	2204	2222	2240	2257	2275	2293
130	2311	2329	2347	2364	2382	2400	2418	2435	2453	2471
140	2489	2507	2525	2542	2560	2578	2596	2613	2631	2649
150	2667	2685	2703	2720	2738	2756	2774	2791	2809	2827
160	2844	2862	2880	2897	2915	2933	2951	2968	2986	3004
170	3022	3040	3058	3075	3093	3111	3129	3146	3164	3182
180	3200	3218	3236	3253	3271	3289	3307	3324	3342	3360
190	3378	3396	3414	3431	3449	3467	3485	3502	3520	3538
200	3556	3574	3592	3609	3627	3645	3663	3680	3698	3716
210	3733	3751	3769	3786	3804	3822	3840	3857	3875	3893
220	3911	3929	3947	3964	3982	4000	4018	4035	4053	4071
230	4089	4107	4125	4142	4160	4178	4196	4213	4231	4249
240	4267	4285	4303	4320	4338	4356	4374	4391	4409	4427
250	4444	4462	4480	4497	4515	4533	4551	4568	4586	4604
260	4622	4640	4658	4675	4693	4711	4729	4746	4764	4782
270	4800	4818	4836	4853	4871	4889	4907	4924	4942	4960
280	4978	4996	5014	5031	5049	5067	5085	5102	5120	5138
290	5156	5174	5192	5209	5227	5245	5263	5280	5298	5316
300	5333	5351	5369	5386	5404	5422	5440	5457	5475	5493
310	5511	5529	5547	5564	5582	5600	5618	5635	5653	5671
320	5689	5707	5725	5742	5760	5778	5796	5813	5831	5849
330	5867	5885	5903	5920	5938	5956	5974	5991	6009	6027
340	6044	6062	6080	6097	6115	6133	6151	6168	6186	6204
350	6222	6240	6258	6275	6293	6311	6329	6346	6364	6382
360	6400	6418	6436	6453	6471	6489	6507	6524	6542	6560

1 degree =17.7778 mils **1 minute = 0.2963 mils** **1 mil = 3.375 minu**

CONVERSION TABLE

YARDS - METRES - YARDS

YARDS	YARDS METRES	METRES
1.1	1	.9
2.2	2	1.8
3.3	3	2.7
4.4	4	3.7
5.5	5	4.6
6.6	6	5.5
7.7	7	6.4
8.7	8	7.3
9.8	9	8.2
10.9	**10**	**9.1**
21.9	20	18.3
32.8	30	27.4
43.7	40	36.6
54.7	**50**	**45.7**
65.6	60	54.9
76.6	70	54.0
87.5	80	73.2
98.4	90	82.3
109.4	**100**	**91.4**
218.7	200	182.9
328.1	300	274.3
437.4	400	365.8
546.8	500	457.2
656.2	600	548.6
765.5	700	640.1
874.9	800	731.5
984.3	900	823.0
1093.6	**1000**	**914.4**
1203.0	1100	1005.8
1312.3	1200	1097.3
1421.7	1300	1188.7
1531.0	1400	1280.2
1640.4	1500	1371.6
1749.8	1600	1463.0
1859.1	1700	1554.5
1968.5	1800	1645.9
2077.9	1900	1737.4
2187.2	**2000**	1828.8
2296.6	2100	1920.2
2405.9	2200	2011.7
2515.3	2300	2103.1
2624.7	2400	2194.6
2734.0	2500	2286.0
2843.4	2600	2377.4
2952.8	2700	2468.9
3062.1	2800	2560.3
3171.5	2900	2651.8
3280.8	**3000**	**2743.2**
3390.2	3100	2834.7
3499.6	3200	2926.1
3608.9	3300	3017.5
3718.3	3400	3109.0
3827.6	3500	3200.4
3937.0	3600	3291.9
4046.4	3700	3383.3
4155.7	3800	3474.7
4265.1	3900	3566.2
4374.4	**4000**	**3657.6**
4483.8	4100	3749.0
4593.2	4200	3840.5
4702.5	4300	3931.9
4811.9	4400	4023.4
4921.2	4500	4114.8
5030.6	4600	4206.3
5140.0	4700	4297.7
5249.3	3800	4389.1
5358.7	4900	4480.6
5468.0	**5000**	**4572.0**

CONVERSION TABLE

INCHES - MILLIMETRES - INCHES

INCHES	MILLIMETRES
1	25.4
2	50.8
3	76.2
4	101.6
5	127.0
6	152.4
7	177.8
8	203.2
9	228.6
10	254.0
11	279.4
12	304.8
24	609.6
36	914.4

MILLIMETRES	INCHES
10	.39
20	.79
30	1.18
40	1.58
50	1.97
60	2.36
70	2.76
80	3.15
90	3.94
100	3.94
200	7.87
300	11.81
400	15.75
500	19.69
1000	39.37

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Army Code No
13633-1 (Rev 1970)

26/Mans/4007

USER HANDBOOK

for

MACHINE GUNS 7.62 mm

L7A2 & L7A1 (GPMG)

and

MOUNTING, TRIPOD, 7.62 mm, MG L4A1

LAND SERVICE

1970

(HB 52/1)

AMENDMENTS (No 1)

MANUSCRIPT AMENDMENTS

Page 24 -	Para 38 - line 2 - After "wooden" insert "or plastic"
Page v -	List of Illustrations - Below Fig 23 insert Fig 23A Bipod assemblies L1A1 and L2A1 26A

CUT-OUT AMENDMENTS

Page vii - List of Illustrations - After Fig 74 and detail add -

Amdt 1/Dec/1970

ANNEX 'A'

Fig 1 Bipod

ANNEX 'A' - Page 2 - Add new sub-para c., (1) and (2) and Fig 1 -

Amdt 1/Dec/1970

c. Miscellaneous Items.

The following items, if on charge to a Unit can also be used on the L7A2.

(1) Bipod (Fig 1) - fitted with spiked spades in order to give a better grip on certain types of terrain.

(2) Butt, extra long - approximately 50 mm (2 in) longer than the standard issue.

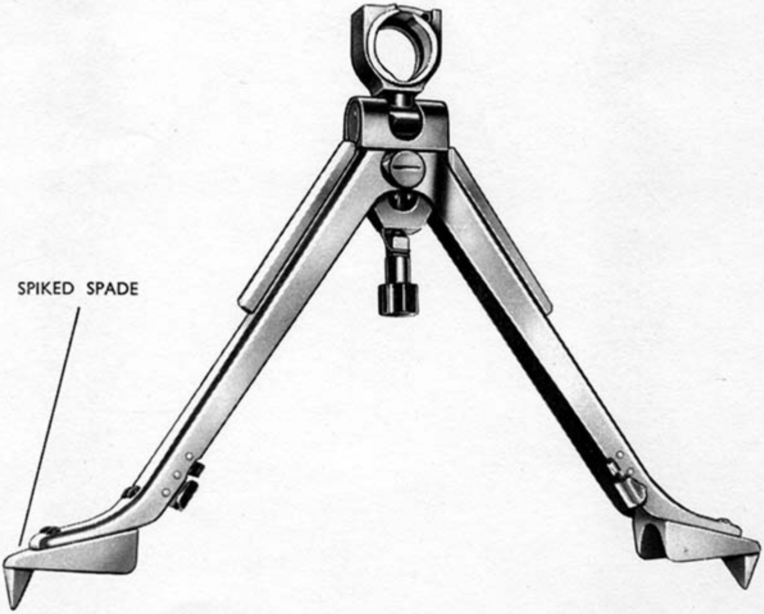

Fig 1 Bipod

ANNEX 'C' - Page 1 - Add new para 3. -

Amdt 1/Dec/1970
3. THE PROCEDURE LAID DOWN IN PARA 135 SUB-PARA a. FOR BALANCING THE GUN IS TO BE CARRIED OUT USING BLANK AMMUNITION.

After Page 26 - Insert new page 26A attached hereto

Amdt 1/Dec/1970

40A. Bipod L1A1 (Fig 23A).

The bipod L1A1 of similar design to the bipod shown in Figs 23 and 24, incorporates the following additional features:

a. Redesigned extended sleeve to give extra height.

b. Arm support to prevent the gun rolling over when the Weaponsight, Image Intensified, (Individual Weaponsight) is fitted. The arm support, located in a recess in the top left shoulder of the bipod sleeve, is engaged by tilting the gun fully to the right and flicking the arm over towards the barrel. The arm support is released by flicking down on the serrated edge.

c. Legs fitted with spiked spades to improve stability.

d. Modified hooks and lugs on each leg.

40B. Bipod L2A1 (Fig 23A)

The bipod L2A1 is of similar design to the bipod shown in Figs 23 and 24 except for the addition of the arm support featured on the bipod L1A1.

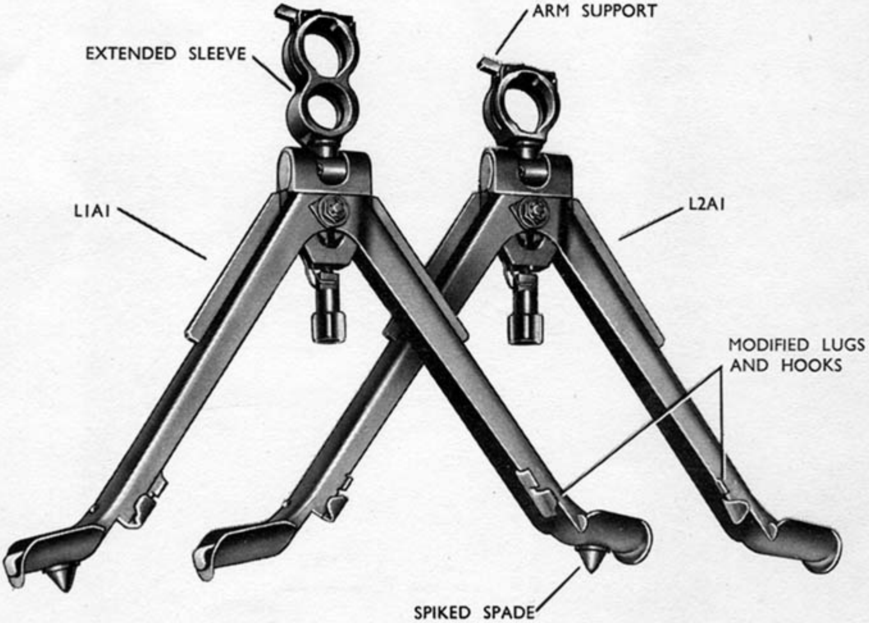

Fig 23A Bipod assemblies L1A1 and L2A1